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ABSTRACT

A project will develop and test a comprehensive monitoring and evaluation system tailored especially to the objectives and administrative requirements of state-financed, workplace-based employee training programs. That system will have the following three components: (1) a process monitoring system that shows whether the programs are following administrative guidelines for targeting and substitution; (2) a performance assessment system that measures direct program outcomes and shows whether the programs are reducing unemployment and increasing job retention; and (3) an impact evaluation system for measuring directly the net impact of the programs on job retention and unemployment. The training programs evaluated by this system will be considered successful in reducing unemployment and retaining jobs when they result in the following performance indicators: improved worker competencies; improved work unit performance; improved competitive standing of the company; and stable or improved wages and earnings of trainees. The test of the system will focus on assessment of the appropriateness and feasibility of those four performance indicators as measured by the system in 24 case studies of training programs in California, Illinois, and at least one more state. A final report is expected. (30 references.) (CML)

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STATE-FINANCED, WORKPLACE-BASED RETRAINING PROGRAMS

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A Joint Study of
the National Commission for Employment Policy
and the National Governors' Association

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STATE-FINANCED, WORKPLACE-BASED RETRAINING PROGRAMS

A Joint Study of the
National Commission for Employment Policy
and the National Governors' Association

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Research Report # 89-01

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The opinions expressed in this paper are those of the authors and do not necessarily reflect the opinions of the members and staff of the National Commission for Employment Policy, the National Governors' Association, and the organizations and agencies participating in this study.

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PREFACE

Early in 1988, the National Commission for Employment Policy (NCEP) was asked by the National Governors' Association (NGA) to support a study of a new variety of state training programs. Two states in particular, Illinois and California, have pioneered in the development of these "state-financed, workplace-based" programs that attempt to aid firms and their employees simultaneously.

Federally-sponsored programs targeted on experienced workers have tended to intervene only after the workers have been "dislocated", and the employment connection with their old firm has been broken. Part of the difference between the dislocated worker approach and the approach studied in this project is that forestalling unemployment and the social costs that go with it is an explicit priority. Another part of the difference is that firms aided under these programs are typically expected to develop a plan for improved competitiveness of which retraining is but one dimension.

In addition to financial support, Commission policy analysts Kay Albright and Stephen Baldwin have been substantively involved in the development of the project and the editing of this report. A similar contribution has been made by Evelyn Ganzglass, director of the NGA's employment and training program. Both organizations are grateful to the authors of the report, Peter Creticos and Robert Sheets, and to the members of the project advisory panel, whose names are listed elsewhere in this report. Particular attention also goes to the board members and staffs of the state programs that are being studied, and to the officials and employees of the firms that have cooperated with the researchers.

NCEP and NGA expect to publish the final report on the project in early 1990, which will contain the results of the case studies to be conducted within the present framework.

EXECUTIVE SUMMARY

Increased national and international competition, rapidly changing technologies, chronic problems of worker dislocations and lagging growth in productivity have brought together American businesses, unions and government in new public-private partnerships for retraining experienced workers. State-financed, workplace-based employee retraining programs have been established recently as a part of state efforts to improve the competitiveness of firms operating in the U.S. and to prevent unemployment by retraining employees who are at risk of losing their jobs because of changing skill requirements in the workplace. California's Employment Training Panel and Illinois' Prairie State 2000 Authority are two state agencies that partially underwrite retraining costs. These agencies provide funds to employers to retrain those employees whose skills have been made obsolete by changes in process technologies and work organization.

These new state-financed, workplace-based retraining programs represent a major departure from earlier government employment and training policies and programs. Previous government programs have been rooted in broadly accepted policy premises that justify the need for government involvement in universal education and pre-employment training for new labor entrants, the educationally and economically disadvantaged and displaced workers.

Until recently, job-related training for privately employed workers was viewed simply as a normal cost of doing business and as an activity within the exclusive domain of the private sector. This policy perspective was based on premises that the benefits from job-related training accrue primarily to the employer sponsoring the training and that the workers' newly acquired skills generally are not transferable to other employers. This perspective has restricted government investment to general skill training outside the workplace.

These new state-financed, workplace-based retraining programs also are major components of new state economic development efforts aimed at retaining jobs by improving the competitive standing of businesses in their own industries. These efforts include technology transfer assistance, marketing and export assistance and financing assistance. Like other state business retention programs, these new state-financed, workplace-based retraining programs attempt to improve company performance in areas (e.g., unit costs, quality control, delivery time) that are critical for businesses to remain competitive within their own industries.

These retraining programs serve as a bridge between employment and training and economic development programs because they establish the importance of integrating human resource investment with capital expenditures on

new process technologies. They also direct state attention toward coordinating job training and economic development programs in efforts to improve the competitive standing of businesses within the state.

Major structural changes in the international and national economies and growing concerns about the competitiveness of American businesses have prompted public policy-makers to question the adequacy of government involvement in general skill training and consider new government involvement in workplace-based employee retraining. Some states recently began financing worker retraining in the workplace in the belief that retraining programs are an efficient and effective means of keeping skilled workers in productive jobs and achieving improvements in business competitiveness. The emerging policy rationale for these new state programs is based on the argument that job-related training of employees involves a wide range of transferable basic and vocational skills that prevent companies from capturing the full economic benefits for this type of investment. This is true especially for the advanced process technologies and new forms of work organization that businesses are attempting to implement to remain competitive. Employee retraining for these types of changes requires a large degree of general skills training that easily can be lost if workers get hired away by other companies who did not incur the training costs.

In addition, this emerging policy rationale argues that government has a direct interest in retraining employees to prevent or reduce the social and economic costs of technology and economic change. In particular, government has an interest in preventing unemployment and keeping workers off unemployment insurance. Government also has a direct interest in encouraging companies to respond to technology and market pressures by retraining employees, especially non-managerial and non-professional employees who traditionally have received less government and business training investment. These programs also are intended to encourage further training investment by businesses that extend beyond the period of government investment.

Growing business interest in state-financed, workplace-based retraining programs and the resulting demands for more public funds have prompted public debate on the proper role of these state-financed, workplace-based retraining programs in state employment and training and economic development efforts. This debate also concerns the effects of these programs on reducing unemployment and retaining jobs. This research and evaluation project represents the first effort to develop and test a comprehensive monitoring and evaluation system tailored especially to the objectives and administrative requirements of state-financed, workplace-based employee retraining programs.

A comprehensive monitoring and evaluation system for state-financed, workplace-based retraining programs should have three major components:

First, a process monitoring system that establishes whether these programs are following administrative guidelines for program targeting and substitution,

Second, a performance assessment system that measures direct program outcomes and establishes whether these programs are achieving the results at the work unit and company levels that are necessary for having significant impacts on unemployment and job retention, and

Third, an impact evaluation system for measuring directly the net impact of these programs on unemployment and job retention.

In developing a monitoring and evaluation system for these state programs, this project will concentrate on the development of a process monitoring and performance assessment system that can establish whether these programs are following administrative guidelines for program targeting and substitution and whether they are achieving the program outcomes that are necessary for achieving significant impacts on unemployment and job retention. This project also will propose alternative net impact designs that state agencies could consider in developing an impact evaluation system for these programs.

Based on the intervention models of California's Employment Training Panel and Illinois' Prairie State 2000 Authority, this project has designated four major program outcomes as the foundation of a performance assessment system:

- Certified Competencies in Transferable Skills
- Improved Work Unit Performance
- Company Improvement in Competitive Standing
- Wages and Earnings of Trainees

State-financed workplace-based retraining programs would be considered successful in reducing unemployment and retaining jobs when training projects result in improved worker competencies, improved work unit performance, improved competitive standing of the company, and stable or improved wages and earnings of trainees. Some state agencies already collect information on wages and earnings of trainees as part of their current evaluation efforts. However, no state agency evaluates training projects in terms of improved business performance.

The project case studies will focus predominantly on an assessment of the appropriateness and feasibility of the four performance outcome indicators proposed in this paper. The project case studies will be conducted in two major phases. The first phase will review all training projects completed during the two previous calendar years by California's Employment Training Panel and Illinois' Prairie State 2000 Authority ETAP program. This phase will include exploratory case studies on 3 training projects. The second phase of the project will involve an additional 21 case studies that will apply the proposed set of performance outcome measures in an evaluation of training projects in California, Illinois and at least one additional state. These case studies will attempt to measure program outcomes on all proposed indicators where data are available. These project evaluations will result in a final report assessing the feasibility of the proposed evaluation system.

INTRODUCTION

In recent years, state governments have established new and innovative workplace-based retraining programs centered on the principle that the most effective way to address unemployment is to prevent it in the first place. These programs are operated with the mandate to minimize the incidence of unemployment and retain jobs by retraining employees who are at risk of losing their jobs because of changing skill requirements in the workplace. State agencies, such as California's Employment Training Panel and Illinois' Prairie State 2000 Authority, provide retraining funds to companies for workers whose skills no longer match the requirements of their jobs due to changes in process technologies and work organization used in the production of goods and services.

Growing business interest in these programs and the resulting demands for more public funds have raised important policy questions about the proper roles of state-financed, workplace-based retraining in job training and economic development efforts. Inasmuch as these programs have been experimental, most state policy-makers have been satisfied thus far with the general argument that retraining will lead to reduced risks of unemployment and to job retention. However, critics contend that a sufficient case has not been made for this kind of public sector participation in the operations of private businesses. They argue that retraining is the responsibility of business and that government assistance does no more than substitute public resources for private ones. Also, they argue that there is insufficient evidence to support the claim that worker retraining is an effective strategy for reducing unemployment and retaining jobs. It is reasonable to expect that as state-financed, workplace-based retraining programs become more common, these criticisms will be accorded detailed consideration by policy makers.

Although the policy rationale for many of these programs continues to evolve, it appears that state-financed, workplace-based retraining offers a convenient means for linking the goals of employment and training policies with those of economic development. Employment and training policy advocates hold the view that training programs achieve reductions in unemployment and retention of jobs by improving the skills of workers. On the other hand, economic development policy advocates view state-financed, workplace-based retraining as a means for achieving lasting improvements in the ability of a firm to compete effectively within its given industry.

Programs like those offered in California and Illinois appear to link employment and training policies with economic development policies because they provide state retraining assistance to businesses that show that: 1) improvements are being made in process technologies and work organization used in the production of

goods and services, and 2) worker skill requirements have changed. Although this is done mainly to document the need for retraining, one outcome is that retraining is tied to broader company strategies for enhancing or gaining a competitive position. As a consequence, both employment and training and economic development objectives seem to be achieved because the combination of improvements in worker skills and company performance presumedly will result in greater prosperity for the company and a reduction in the risk of unemployment for the newly retrained employees.

Agencies operating these state-financed, workplace-based retraining programs, in particular Illinois' Prairie State 2000 Authority and California's Employment Training Panel, have worked to clarify the criteria for targeting public subsidies and have developed some indicators of program performance. For instance, they have borrowed evaluation methods established for other government-sponsored employment and training programs. Initial program performance evaluations have included assessments of the effects of worker retraining on trainee skills and pre- and post-training comparisons of employment and earnings. However, these agencies recognize that they require a more fully developed evaluation system if they expect to target their resources or assess their effect on unemployment and job retention.

The first step in the development of a comprehensive evaluation system for state-financed, workplace-based retraining programs is to establish a clear policy rationale for government intervention and a formal intervention model that specifies the program outcomes that are necessary to achieve the desired effects on unemployment and job retention. The policy rationale and intervention model for these programs are discussed in Part A of this report.

The first section of Part A reviews competing perspectives on the role of government in job retraining for employed workers and summarizes the emerging policy rationale for state-financed, workplace-based retraining programs in the context of employment and training policy issues. This section is followed by a brief discussion of economic development policy issues and the problems of targeting government funds and minimizing substitution effects. Part A concludes with a summation of the intervention model and of the targeting and substitution issues. These will provide the foundation for a monitoring and evaluation system.

Part B of this report addresses the major components of a monitoring and evaluation system for state-financed, workplace-based retraining programs and establishes the program outcome indicators that will be assessed in project case studies.

The first section of Part B reviews the major components of an evaluation system. The second section describes proposed administrative guidelines for business selection and substitution minimization. The third section describes the four performance outcome indicators for a performance assessment system. The remaining sections of Part B describe the research design and key research issues for the project case studies.

PART A: POLICY ISSUES

I. PROGRAM OBJECTIVES AND ACTIVITIES

Increased national and international competition, rapidly changing technologies, chronic problems of worker dislocation, and lagging growth in productivity have brought together American businesses, unions and government in new public-private partnerships for retraining experienced workers. At least a quarter of the states have responded with financial assistance to businesses that covers a portion of the cost of retraining workers. These programs differ markedly from other publicly-financed, workplace-based training programs that routinely subsidize the cost of training new employees as components of state financial incentive packages to attract new businesses or encourage business expansion. They differ also from programs that are intended to solve the problems of dislocated workers in that they attempt to address the problem of dislocation before it occurs. The result are programs that seek to retain existing jobs by improving the competitiveness of resident businesses largely by combining employee retraining and improvements in individual productivity with technological innovation in the workplace. They also are intended to encourage businesses to adopt more aggressive human resource investment strategies that provide for continual retraining of their workers.

Although many states have programs that occasionally provide financial assistance to businesses for retraining workers, two states, Illinois and California, have ongoing, long-term programs that tie the use of retraining funds with concurrent changes in the workplace. Although born under different circumstances, these programs share essential common traits that separate them from other industry-specific training programs.

California.

In 1982, the California legislature established the Employment Training Panel to:

> *foster job creation, minimize employers' unemployment costs, and meet employers' needs for skilled workers by providing skills training to unemployment insurance claimants, recent exhaustees of unemployment insurance who have remained unemployed, and potentially*

displaced workers who would otherwise become unemployment insurance claimants.[1]

The Panel is composed of seven members with experience and a demonstrated interest in business management and employment relations. Four members of the panel are appointed by the Legislature: two by the Speaker of the Assembly and two by the President pro Tempore of the Senate. Three members are appointed by the Governor. The Governor also designates the chair from among the members. The Panel hires the Executive Director, who serves at its pleasure, and staff, who are subject to the State Civil Service Act. Two Assistant Directors appointed by the Governor, also serve at the pleasure of the Panel.

Funds appropriated to the Panel may be expended only to help people learn skills that will put them to work or to help people learn skills that will keep them from losing their jobs. Money from the Fund are spent *"only for training for employers or groups of employers who assure that those who successfully complete training will be employed."* In addition, the Panel must be convinced that the training will move people into careers with long-term job security. It will not, as a matter of policy, train people for *"deadend, minimum wage jobs...[or]...short term or high turnover jobs."* Its objective is to *"help train people for good jobs that provide a decent living in stable or expanding occupations."* The Panel writes performance-based contracts that tie payments to the successful completion of training and 90-day post-training retention. It will reimburse the employer for all actual training costs and reasonable administrative expenses. However, it will not subsidize wages paid to trainees nor pay stipends. In the event that the workers receiving training are union members, the Panel requires that the union must first agree to the training before state funds are expended.

Funding for the panel is derived from receipts from a tax imposed on employers. The basis for the tax is identical to California's unemployment insurance tax. Annual appropriations to the Panel by the Legislature have grown from $26 million in fiscal year 1983 to amounts in excess of $60 million in fiscal years 1986 through 1988. However, total revenues regularly have exceeded their annual appropriations. For example, in FY 1988, total revenues exceed $104 million, including money carried forward from the previous year and estimated disencumberances.

Initial Panel activities were focused on projects that trained unemployed workers. However, since its inception through June 30, 1987, 53 percent of the projects have trained potentially displaced workers. Another 20 percent of the

[1] Quoted materials on the California program are derived from California statute and Employment Training Panel policies and public information materials.

projects have combined unemployed and potentially displaced workers. The remaining 27 percent of the projects trained only unemployed workers.

Illinois.

The purpose of the Prairie State 2000 Authority is to:

> *establish employment training programs which foster job creation, reduce employer unemployment costs, and meet the needs of the economy for skilled workers by providing job-linked training for unemployment insurance claimants and potentially displaced workers who could become such claimants.*[2]

It was established in 1983 under a slightly different name initially to operate a system of individual training accounts. In 1985, the mission of the Authority was revised and two programs were added. One program, the Individual Training Assistance Program, was established to provide financial assistance to experienced UI-eligible workers who wanted to upgrade their skills or acquire new ones. This program was made available to workers who were unemployed as well as those who still were working. The second program, the Employer Training Assistance Program, was established *"to make grants or loans to eligible employers for the purposes of providing training to employees in fields for which there are critical demands for certain skills."* It also provides that the agency provide financial assistance to an employer:

> *1) who will provide job-linked training which offers special skills for career advancement or which is preparatory for, and leads directly to, jobs with definite career potential and long-term job security;*
>
> *2) who is unable to provide sufficient funds internally, or from other available sources, including federal, State or locally administered employment and training programs; and*
>
> *3)(i) who is expanding its business enterprise in this State, is locating a new business enterprise in this*

[2] Quoted materials on the Illinois program are derived from Illinois statute and Prairie State 2000 Authority policies and public information materials.

State, is introducing more efficient technology into its operations which will result in greater output per employee, is expanding into new markets, or is expanding exports from Illinois, and is thereby increasing tax revenues for State and local governments; or

ii) whose existing employees are threatened with layoff unless additional training is made available to them.

The Authority is governed by a seven-member Board. Four members are appointed by the Governor with no more than two from the same political party. The other three members are *ex officio*: the State Treasurer, the Director of the Department of Commerce and Community Affairs, and the Director of the Department of Employment Security. The *ex officio* members may designate others to attend meetings of the Board in their place. The Board elects a Chair from among the four appointed by the Governor. It also appoints the Chief Executive Officer, who serves at its pleasure, and the staff.

In implementing the statute, the Authority has used the Employer Training Assistance Program to assist employers retrain their workers in new process technologies or in new forms of work organization. Pursuant to the statute, the Authority requires that the employer demonstrate that it lacks the financial resources to conduct the retraining in a proper or timely fashion. Firms or establishments that are eligible for assistance include those earning little or no profits, or those reinvesting their earnings back into their operations. In addition, as a condition of assistance, the Authority requires that the firm or establishment making the request provide a reasonable business strategy that incorporates the proposed retraining. Like the California program, if the workers receiving the retraining are union members, the Authority requires that the union first agree to the retraining before the grant or loan request may be approved. The agency will give grants covering 50 percent of the direct training costs or low-interest loans covering all eligible costs.

Agency performance since fiscal year 1986 shows considerable year-to-year consistency. In fiscal year 1986, the Authority issued 48 grants that resulted in retraining for nearly 4,000 workers. Additional grants were made to a major Illinois manufacturer under an experimental program that resulted in another 13,000 workers receiving retraining. In total, over $1 million was spent for employer training assistance. In FY 1987, the agency made 61 grant awards for over $937,000 and 7 loans for over $54,000. These trained 8500 employees. In FY 1988, the agency made 56 grants ($927,000) and 8 loans ($58,000) covering 9735 workers.

Observations.

The agencies operating California's Employment Training Program and the Illinois' Employer Training Assistance Program, although differing in size and some operating procedures, share key characteristics. For instance, each agency is required by law to serve unemployed workers. Also, both are charged with the mission of preventing unemployment by assisting the employed to learn skills that are in demand.

In looking to lower the risk of unemployment when jobs are in jeopardy, the statutes of California and Illinois require contractor employers to continue employing workers that were retrained with state assistance for at least ninety days. This provision is implemented in California through what the Employment Training Panel calls "performance-based" contracts. It pays only the training costs for workers who remain on the job ninety days after the completion of the retraining program. In light of cash flow constraints felt by the employer, the Panel may make progress payments not exceeding 50 percent of the total grant contract. Illinois takes a slightly different approach in that it routinely pays one half of the grant at the time training commences. The other half of the grant is prorated and paid on the basis of the number of workers who remain on the job 90 days after completion of the training program. Loans are awarded entirely at the front end of the training activities. However, up to 25 percent of the principal may be forgiven on the basis of the share of newly retrained workers remaining on the job one year after the completion of training.

In addition, California practice and Illinois statutes require that the applicant business describe the company's long-term business strategy and the role that retraining will take in implementing this business strategy. One consequence of these inquiries is that the agencies appear to screen out applicants that do not provide a productive work environment. The assumption implied by such an approach is that retraining is not in itself sufficient to achieve significant operating improvements leading to a reduction in the risk of unemployment. Other factors in the work environment affect the performance of the worker. These factors include the obvious, such as the business providing its workers with the appropriate machinery and equipment that are in good working order. Or they may include more subtle environmental changes. For instance, statistical process control (SPC) systems adopted at the plant floor generally must be accompanied by other changes, such as tighter controls on raw materials and parts, in order for there to be a significant improvement in the quality of the final product. This requires that material buyers adopt new techniques in order for the training in SPC to have a noticeable effect.

Although the fundamental objectives of the two programs are very similar, there are some differences. Perhaps the most critical difference is in funding source. California's program is operated with money received through an unemployment-insurance type tax on employers paid in behalf of workers. The primary consequence of this approach is that the business community is viewed as taking an "ownership" stake in the program: essentially, business money is collected and redistributed to help a subset of businesses making investments in human resources. This contrasts with the Illinois approach that takes a more traditional government position: i.e., general funds are used to achieve specific social and economic objectives.

These differences are manifested in one key way. The Employment Training Panel is not obligated to give priority to or specifically serve financially needy businesses. Instead, the emphasis is on performance, particularly retention. This appears to be a direct means of achieving the fundamental objective of lowering the incidence of unemployment. On the other hand, Illinois gives a great deal of attention to financial need, primarily because it does not want to substitute government funds for money that the company otherwise would have spent for retraining.

While it is possible that the source of funds may have an effect on government policies as they pertain to substitution, it is not unusual for a state government to decide on a program and then seek the most expedient means to fund it. For instance, until recently, Illinois' business community has had to live with unusually high unemployment insurance tax rates. As a result, there was no capacity in the unemployment insurance system to support any programs, particularly experimental ones like the Employer Training Assistance Program. On the other hand, California had substantial capacity in the unemployment insurance system by virtue of the tax cuts being made at the time the Employment Training Panel was established. Consequently, employers still received their tax cut. The only difference was that the cut was not as great as it otherwise would have been had not the Employment Training Panel been established.

However, setting aside the argument that expediency may be a major reason for the differences in funding approach, the examples of California and Illinois suggest that differences in the source of funds do not necessarily result in program differences. For instance, the California Panel views the source of its funds as coming from the business community although paid in behalf of workers. Labor economists generally argue that while the unemployment insurance program, and therefore the Employment Training Panel program, may be funded directly by business, labor contributes directly to the program in the form of lower wages. On the other hand, the Illinois General Assembly thought it appropriate to apply general funds for essentially private purposes. Many public policy theorists

generally object to the use of government money as the source of business subsidies. Nevertheless, irrespective of the source of funds, the two programs are remarkedly alike.

Having gone beyond the traditional objectives of employment and training policy and into matters pertaining to the long-term viability of the firm, the Employment Training Program and the Employer Training Assistance Program have crossed into areas traditionally considered to be economic development policy. Not only are the agencies that operate these programs concerned about the status of the individual receiving the training, they involve themselves also in the condition and operational improvements of the firm. They have, in effect, established a hybrid approach that suggests that positive changes in competitiveness are a function of worker productivity improvements and workplace changes.

II. JOB TRAINING POLICY ISSUES

The history of government policy in the education and training of workers for private employment describes the growing intervention of the public sector in labor markets. One purpose of this intervention has been to reduce the mismatch between the skills of workers and changing workplace requirements resulting from major technological and economic shifts.

Most of the public sector's efforts in worker education and training have been contained within three major areas, each having been established to address specific labor market problems brought to national attention during particular historical periods. These three areas of government-financed worker education and training are: (1) universal education and pre-employment vocational training for new labor market entrants; (2) pre-employment education and training for disadvantaged workers, and (3) retraining assistance for unemployed and dislocated workers. National interstate labor exchange programs add another important dimension to the assistance provided to unemployed and dislocated workers.

The first area of government efforts in education and training stems from the public's acceptance of and general commitment to *universal primary and secondary education and pre-employment vocational training*. This commitment was gained, in part, because new labor market entrants, mostly school-aged youth, needed to be trained in basic and vocational skills necessary for factory and office jobs emerging during the 19th century from the new industrial economy. However, over the last 50 years, pre-employment training has grown substantially beyond the traditional primary and secondary education systems. During this time, government has added wide arrays of one- and two-year post-secondary vocational education programs and comprehensive community colleges providing customized training services to local businesses.

The second area was established by the social programs of the 1960s. It used education and training programs as a means for *reducing social welfare dependence and providing equal education and employment opportunities for economically and educationally disadvantaged populations*. This, in part, was justified on equity grounds and as a less costly alternative to the social welfare costs of maintaining a dependent, non-productive population at the margins of the labor market. Efforts along these lines continue to grow through a variety of federal and state programs, including the Job Training Partnership Act and new welfare-work programs.

The third area of government commitment to education and training is characterized by a rapidly growing number of new federal and state programs that *retrain non-agricultural unemployed workers who lose their jobs because of major*

technological and economic changes. These programs emerged during the 1960s with the Economic Redevelopment Act and the Manpower Development and Training Act in response to national concerns over the displacement effects of technology changes in the workplace. It was strengthened during the 1980s with the Title III JTPA Dislocated Workers and the revised Trade Adjustment Assistance (TAA) programs in response to public concerns over manufacturing job losses due to structural changes in the national economy and foreign competition. A more comprehensive national program has been enacted into law that is part of the 1988 Omnibus Trade Act and related legislation. In addition, a number of states have established their own dislocated worker programs [Ganzglass and Heidkamp, 1986]. Some states also have taken the step of enacting advanced notice or other forms of plant closing laws [Leroy, 1983]. Generally, these programs have been justified by the need to reduce the social and economic costs of economic change by shortening the period of unemployment faced by dislocated workers.

As noted previously, many state workplace-based retraining programs, especially in Illinois and California, were established originally to retrain unemployed workers to meet the demands imposed by rapidly changing skill requirements in businesses. Their transformation into workplace-based retraining programs for *employed* workers may be justified as a more equitable and efficient means for matching workers' skills and changing job requirements. If this rationale gains broad acceptance, publicly-financed, workplace-based retraining of employed workers will become a fourth area of government-financed worker education and training.

However, broad acceptance of these programs is not necessarily a foregone conclusion. Most critics of this fourth area rely on traditional policy arguments regarding the respective roles of government and business in employee training. These arguments, in turn, are based on distinctions between general and firm-specific training and assumptions about who actually captures the benefits of employee training in the workplace.

Government Financing of Employee Education and Training.

Before presenting the policy rationale for government financing of job-related retraining for employed workers, it is useful to distinguish job-related retraining from other types of employee training. Doeringer [1981] has distinguished three general types of employee training in the context of government-funded programs:

1) **Remedial Education and Training:** Education and training that compensates for short-comings in the public education and pre-employment training system or assists in improving the economic situation of socially, educationally or economically disadvantaged workers;

2) **Employee/Career Development:** Job training for a particular job or occupation (e.g., certification, required degrees) within the company as well as more general educational and employee development activities that initially benefit the employee more than the company; and

3) **Job-Related Training:** Job training that builds workers skills for specific workplace applications within a particular company or industry and is designed to improve company performance and worker productivity.

Remedial education and training has been justified on the grounds that the general social and legal responsibilities of government are to improve economic opportunities for disadvantaged workers. This improvement is accomplished by means of indirect grants through public education and training organizations for upgrading basic and vocational skills, as well as direct wage subsidies for on-the-job training and work experience. Despite an apparent upsurge of business participation in remedial education and training, the major financing responsibility remains with government. Examples of these programs include JTPA wage subsidies for on-the-job training and work experience, the Targeted Jobs Tax Credit (TJTC) program and workplace literacy programs.

Employee/career development training supports the development of general vocational skills rather than job-specific skills tied to a particular employer. The goals of these programs are to bring individual workers up to a minimum level of competency and to provide the business community with an adequate labor supply. Although individuals often bear the total direct costs of employee/career development training, it is common for this training to be financed through cost-sharing arrangements involving employees, employers, and government. Individuals commonly are expected to share in the costs of this type of training because they have an assumed responsibility to obtain training that is necessary to establish and maintain a career. These financing mechanisms may include direct employee contributions or may be part of an employer-sponsored fringe benefits package (e.g., tuition assistance programs, professional conferences, workshops and training courses and in-house training programs).

Government subsidies of this training also come in many forms. Indirect subsidies include special deductions or tax credits for certain employer-sponsored tuition aid plans. Direct subsidies include student loans, cooperative education programs and government funding for off-campus adult and continuing education. Irrespective of the form that these subsidies may take, government funding is justified in terms of various social values, such as improvements in human capital, support of general business development and equal employment opportunity.

In contrast, **job-related training** traditionally has been viewed by employers and government as a normal cost of doing business. Consequently, companies have had primary responsibility for conducting such employee training as is necessary for them to be competitive in their own industries. This attitude has been based generally on two assumptions: 1) work skills acquired through job-related training usually are not transferable directly to other employers; 2) the employer who sponsors the training captures the major portion of the economic return on training through improved productivity and firm profitability. From this viewpoint, government should share only in the costs of general skill development and should encourage employers to invest in job-related training where they are most likely to capture the direct economic benefits.

Policy Rationale for Public Financing of Job-Related Retraining for Employees.

Wrenching changes in the international economy and concerns regarding the competitiveness and productivity of American businesses in most major industries have prompted some public officials and policy analysts to propose a more active financial role for government in support of workplace-based retraining programs. The emerging policy rationale rests on a number of **efficiency** and **equity** arguments.

The **efficiency** arguments are based on three major issues:

- *externalities* in job-related retraining;
- the *social cost* of worker displacement; and
- *cost-effective* retraining strategies and market incentives for labor market intermediaries.

Those who argue from an efficiency standpoint focus on the wide range of transferable basic and vocational skills that are gained in job-related retraining and

on the complex externalities that companies face in capturing the full economic benefits of this type of investment. Except for a narrow range of training programs (e.g., vendor training, company orientation classes, and safety training), many skills gained in workplace-based retraining may be demanded by and transferred to other employers within the same industry. A great deal of workplace-based retraining: 1) upgrades computational and communication skills of workers; 2) provides them with practical knowledge of the application of technology in the workplace; and 3) improves their adaptability and willingness to learn new job tasks and work processes. Also, employers within the same industry often operate equipment of similar design. Experience on one machine frequently serves as a valuable reference point for learning the specific skills in operating other machines involved in similar production processes.

One outcome stemming from the capacity of workers to transfer their skills from one job to the next is that the company making a retraining investment many times is unable to achieve an adequate return on this investment. The return on investments in retraining often is achieved over several years. However, competitors may benefit sooner because they may bid away workers retrained in new technologies without incurring any of the costs. This free-rider problem will develop especially when there is an emerging demand for workers with particular skills. In light of high turnover rates in most labor markets, businesses will tend to under-invest in employee retraining. This likely will result in losses in productivity and competitiveness. Government's participation mitigates this free-rider dilemma by socializing some of the costs of retraining, thereby lowering the total exposure by the business providing the retraining.

Faced with these problems, businesses often respond to rapid technological changes and market shifts by laying off employees with obsolete skills and hiring other workers as opposed to retraining employees to meet new job requirements. Although this practice may limit direct operating expenses for individual businesses, it results in large social welfare costs to government and unemployment insurance costs to the business community as a whole (particularly in light of the fact that no unemployment insurance system is fully experienced-rated). An alternative is to publicly subsidize retraining in the workplace rather than retrain unemployed workers for new jobs. The objectives of this approach are to improve aggregate economic efficiency and to lessen the social costs of economic change.

Proponents of direct employer subsidies also maintain that employers provide the most cost-effective mechanism for organizing and delivering retraining, especially to those workers at the lower tiers of the labor market. They argue that basic and vocational skill training is accomplished most efficiently in the workplace where there is a clear connection between general skill training and specific job requirements. In addition, workplace-based retraining provides an alternative to

adults who were unsuccessful in secondary or post-secondary schools, but who have been successful in adopting good work skills. Finally, the shift of government financing from educational institutions and other labor market intermediaries to employers increases market pressures on public training providers to be more sensitive to changing skill requirements in the workplace and be more open to adapting new educational technologies to improve delivery of adult training. [Office of Technology Assessment, 1988; Perelman, 1985]

The **equity** argument targets imbalances in government training subsidies in the workplace and the need to direct more subsidies to lower tiers of the labor force. Government and private investment in education and training generally favor managerial and professional people over blue-collar, clerical and other kinds of workers in the United States [U.S. Department of Labor, 1985, Office of Technology Assessment, 1986]. Many proponents of direct government support of employee training argue that as a matter of equity, government financial assistance should be extended to lower tiers of the labor force.

Young people who attend college often are able to pyramid assistance from public and private sectors throughout their working lives with fairly certain returns, such as higher earnings and stable employment. Historically, employers and government have relied predominantly on an informal system of on-the-job training for the remainder of the workforce, including most production workers. Yet, for college-educated managers and professionals, public subsidies of higher education are complemented by formal, employer-financed training programs and tuition aid plans. This phenomenon results in a pattern of investment that is biased in favor of the upper tiers of the corporate workforce as well as in favor of higher educational institutions. Such a bias is exacerbated further by the relatively high levels of disposable income of workers in these upper tiers that may be applied to advanced education and training programs.

These efficiency and equity arguments merge when considering productivity and competitiveness problems in the United States. Lester Thurow has observed that significant overall improvements in competitiveness and productivity cannot be achieved by concentrating public and private investment in only college graduates who have entered managerial and professional positions [Thurow, 1985].

New challenges presented by rapid technological change in the workplace provide major reasons for re-examining the public role in financing employee retraining. Most technical skill training follows predictable cycles [Flynn, 1988] with the burden of training in the early stages of a new technology falling predominantly on businesses. Public involvement develops in later stages as new technologies become more widely disseminated. However, changes in technology and foreign competition have forced additional costs onto businesses. It seems that

with every new day, the technical frontiers in manufacturing and office automation are pushed out. As a consequence, many businesses have been required to establish formal in-house training programs for non-managerial and non-professional employees in order to remain competitive.

Recent studies estimate that the "occupational half-life", the time it takes for one-half of workers' skills to become obsolete, has declined from 7-14 years to 3-5 years [National Research Council, 1986]. Some companies report that the "half-life" may be as short as one year. If this trend continues, the public sector may need to change its emphasis from directly providing skill training and instead concentrate more on teaching workers the underlying concepts and general application of new workplace technologies. Otherwise, the public sector will fall increasingly behind in meeting private sector demand for workers with the appropriate education and skills. In either event, businesses will have to absorb a greater share of the training burden in general skills. Unfortunately, in an effort to survive and without public subsidies, businesses may find it necessary to lay-off marginal workers instead of retrain them. The result will be higher levels of transfer payments, increased demand for various social and public health services and greater pressure on targeted employment and training programs serving economically disadvantaged and dislocated workers. In addition, these technology shifts and other structural changes in the economy will force workers to change jobs and occupations many times over their working lives, making continuing education and retraining a basic requirement of maintaining employment.

The challenges from rapid technological change in the workplace are magnified by two major changes in the demographic composition of the U. S. workforce. *First*, declining birth rates in the United States are producing smaller cohorts of new labor force entrants resulting in increased demands on workers already in the labor force. Recent estimates suggest that about 75 percent of the workforce in 2000 A.D. [U. S. Department of Labor, 1987] will be made up of workers who are in the current workforce. *Second*, the sharp decline in new labor force entrants will be accompanied by larger concentrations of minorities and economically disadvantaged workers who enter the labor market with inadequate basic education and vocational training. Such demographic changes are likely to add pressure on businesses and government to develop new institutional mechanisms that provide basic and vocational skill training to adult workers throughout their working lives.

Proponents of direct employer subsidies for employee retraining maintain that this type of government intervention is an effective means to encourage companies to respond to the challenge of technological and market changes. Although corporate expenditures on employee retraining are increasing in the U. S. and some leading companies are instituting new retraining policies, most companies

continue to treat employee retraining as a low priority in strategies to improve productivity and competitiveness [Sonnenfeld and Ingols, 1986]. This orientation is reinforced by the perceived risks and uncertainties of employee retraining and the absence of previous retraining experiences as well as by the absence of clear accounting and evaluation systems for estimating costs and returns on investment.

In addition, companies often are slow to change their orientation to employee retraining. Organization researchers have shown that companies change their employment and training systems usually in response to some type of external pressure, such as technological change, changing product markets, reduced labor supply or sharply rising wage rates or other input costs [Osterman, 1987]. Companies can adapt to these pressures through a variety of strategies that establish different priorities to employee retraining [National Research Council, 1986].

Proponents of workplace-based retraining programs argue that government should serve a leadership role in encouraging companies to respond to technology and market pressures by retraining employees. These programs also should encourage companies to make long-term resource commitments to retraining by providing them with the risk capital to demonstrate the returns of employee retraining on company performance.

Policy Issues.

The job retraining issues set forth in this section give rise to the following policy questions pertaining to state-financed, workplace-based retraining programs:

1) *Should government financing of workplace-based employee retraining be limited to transferable skills that are expected to be in strong demand in state and local labor markets?*

   One major policy rationale for government involvement in employee retraining is that employers will not undertake retraining in marketable skills[3] because their competitors may receive a free ride and because the company paying for the retraining will not achieve an adequate return on this type of training investment. Government financing assistance is justified as a means for compensating the risk incurred in providing this type of training.

[3] "Marketable skills" are skills that may be transferred to and are demanded by other employers in the worker's "effective" labor market, defined by the normal mobility of workers within a given occupation and industry.

This policy rationale is based on assumptions about externalities in employer-financed retraining that have been questioned recently by labor market researchers. In particular, some researchers have suggested that employers can receive a large share of the economic benefits from general skill training when it is integrated with firm-specific training [Glick and Feuer, 1984]. In addition, the distinction between general and firm specific training and the determination of future demand for these skills in the labor market likely will be very difficult for government programs to establish in administering retraining projects. The problems of developing administrative guidelines for screening retraining proposals on the criterion of marketable skills will be addressed directly by this project.

2) *Should government give priority to employed workers over unemployed job applicants with respect to training for new jobs within companies?*

The policy rationale for retraining employed workers is that such efforts will reduce the social costs of technological and economic change by reducing unemployment and unemployment insurance costs. An alternative strategy for government would be to provide job search and retraining assistance to the laid off workers and to assist the company in identifying qualified job applicants from outside the company. The first strategy, which is used in workplace-based retraining programs, is based on the assumption that retraining will prevent the unemployment of employed workers and will not have a major negative impact on the length of unemployment for qualified job applicants from outside the company. It also is based on the assumption that state programs can best minimize aggregate unemployment by preventing the job loss of experienced workers already employed by the company. However, these assumptions remain untested and are open to considerable debate.

3) *Are workplace-based retraining programs the most cost-effective means for organizing and delivering job training to employed workers?*

The policy rationale for state-financed, workplace-based retraining programs argues, in part, that employers provide the most cost-effective mechanism for providing basic and vocational skills training to experienced workers. Workplace-based retraining provides: a clear connection between general skill training and specific job requirements; provides an alternative to workers who were unsuccessful in secondary or post-secondary schools; provides cost-savings on equipment and other training resources; and increases

market pressures on public training providers to become more responsive to business training needs.

These policy assumptions on cost-effective training delivery have not been addressed in previous research and require further clarification before being addressed in this evaluation project. One major barrier to assessing the relative costs and benefits of workplace-based retraining versus institutional training is the absence of a common cost-accounting framework for training. This project will explore the problems comparing costs and training content and will clarify the major issues for further evaluation research.

4) *Should state-financed, workplace-based retraining programs give priority to non-professional, non-managerial workers?*

The policy rationale for state-financed, workplace-based retraining programs in part justifies government intervention on the need to provide non-professional, non-managerial workers with retraining opportunities. Government programs should favor those occupations that usually do not receive privately-financed education and training assistance in order to achieve a more equitable distribution of government and private training investments. By giving priority to these groups, government programs also reduce the likelihood that government funds will be substituted for business funds in employee retraining. If businesses generally do not spend money on training for certain groups of blue-collar and clerical workers, government programs that give priority to these groups will run a lower risk of substitution.

Even in light of this policy rationale, there may be other reasons for government programs to provide retraining assistance to managerial and professional employees. These reasons will be explored in the evaluation project.

III. ECONOMIC DEVELOPMENT POLICY ISSUES

Whereas the states have a long history in education and employment training, they also have a long tradition of deliberately intervening in their respective economies in order to achieve greater community and individual wealth.[4] However, states recently have expanded their economic development activities in conjunction with the adoption of a more aggressive definition of their economic roles.

Fosler suggests that the emerging state economic role is substantially different from the more conventional one in three important ways:

> *In the conventional role, economic development is viewed as a government function (similar to police or health) whose principal mission is to recruit industry to the state. In the new role, economic development is conceived as a process that occurs predominantly in the market driven private sector, but is affected in all its phases -- creation, expansion, relocation, contraction, and regeneration -- by a wide range of state actions, which cut across traditional functional lines.*
>
> *In the conventional role, the state passively accepts prevailing economic forces (at most attempting to influence business location decisions), on the implicit assumption that national economic growth is more or less inevitable and, in any case, could be influenced only by federal policy. In the new role, the state employs an active strategy to improve its competitiveness by confronting and taking advantage of prevailing economic forces.*
>
> *In the conventional role, institutional responsibility for economic policy is consigned to a line agency of the state government, typically a department of economic development or commerce, whose principal mission is to recruit industry. In the new role, a fundamentally different set of institutional arrangements -- involving numerous organizations in both the public and private sectors and at various levels of government -- is used to accommodate*

[4] Louis H. Masotti, Professor of Management and Urban Development, Northwestern University, argues that government economic development programs are deliberate interventions in the affairs of the private sector with the ultimate purpose of achieving greater community and individual wealth than would be accomplished otherwise within a given time period.

> *the new strategic orientation, institutions that are more versatile and flexible in permitting the state to anticipate, specialize, experiment, integrate, evaluate, and adjust in dealing with new and changing economic forces. [Fosler, 1988]*

In addition to changes in the role of states with respect to economic development, states have broadened the scope of their efforts by making fuller use of three generic economic development strategies: *business attraction, business enhancement and business engenderment.*[5] Job training and retraining have become important components of both attraction and enhancement efforts. Essentially, states attempt to meet the labor demands of businesses by providing them with a sufficient supply of qualified workers. In taking this approach, human resources are regarded in much the same way as other production input resources that affect the qualities and prices of the final products.

Job Training in Business Enhancement Programs

The use of retraining in economic development is a relatively recent tactic, becoming popular during in the 1940s [Stevens, 1986]. Nevertheless, its function has undergone important changes over the last 40 years with the most recent significant shifts being staged by agencies such as Illinois' Prairie State 2000 Authority and California's Employment Training Panel.

Since the 1960s [Stevens, 1986], the economic development use of job training has been primarily in the area of business **attraction.** In such circumstances, the state uses training to attract a firm, to prevent its relocation to another jurisdiction or to stimulate the expansion of a resident business. Other economic development tactics include infrastructure assistance, low interest loans, environmental waivers and special tax concessions. The precise mix of attraction incentives depends on their cost, the comparative advantages that they confer on the state over competing jurisdictions and their political palatability. In the aggregate, competition of this sort among states achieves nothing more than zero-sum results. States will copy each other's programs in order to avoid being placed at a competitive disadvantage. Nevertheless, they have expended enormous amounts of resources in an attempt to eke out some slight advantage.

[5] Business attraction is the use of state-financed incentives to attract a firm, to prevent its relocation to another jurisdiction or to stimulate the expansion of a resident businesses. Business enhancement is the use of state-financed assistance to enhance the competitiveness of businesses existing in the state. Business engenderment is use of state resources to encourage and in support of new business start-ups.

In one important way, the true role of job training assistance in attraction efforts has been clouded somewhat by the rhetoric of the programs. Frequently, program administrators describe their efforts in terms of the goals advocated by employment and training proponents: i.e., a reduction in unemployment and retention of jobs by making improvements in the skills of workers. The implication is that the individual workers participating in the programs are the intended primary beneficiaries. However, inasmuch as the *use* of these programs is to influence the decision of firms, the true beneficiaries are the businesses receiving the assistance.

Although the beneficiaries of the programs often are obscured by the language of enabling legislation, job training programs used in attraction efforts often are perceived as achieving unambiguous and politically popular results -- although many argue that these results are often specious. This is due, in part, to the fact that the very nature of the agreement between a state and the business being courted is performance-based: the state will provide specific in-kind or cash subsidies, for which, in return, the company agrees to relocate, expand or remain in the state. Although the company may have picked the state without being offered or provided such subsidies, the apparent *association* between the subsidy and the location decision suggests that the subsidies positively influence the company's decision. In the eyes of the public, the observable fact that a factory opens up or that more workers are going through a plant gate is sufficient proof that something was gained from the government subsidy to business. In addition, recent events suggest that in accepting government funds, the company also accepts certain obligations to the community and to the state. For instance, some companies have found that an attempt to leave a state after accepting its assistance may be viewed by the public and their elected officials as a breach of the terms and conditions of the subsidy.[6]

The job retraining programs exemplified by California's Employment Training Program and Illinois' Employer Training Assistance Program are representative of state economic development efforts aimed at **enhancing** the competitiveness of businesses existing in the state. Generally, these efforts may include broad adjustments to state tax or regulatory policies designed to improve the business environment and encourage investment. At the level of the firm, enhancement programs may include state preferential buying practices, technology transfer assistance, marketing assistance, special financing arrangements, special tax exemptions or relief efforts and targeted regulatory reform.

[6] E.g., Kenosha and Wisconsin state officials threatened lawsuits against Chrysler after the company sought to close the Kenosha facility. Public officials argued that in accepting state assistance, American Motors, the previous owner and operator of the plant, pledged itself to remaining in the state. In their view, Chrysler was obligated to keeping this pledge when it purchased American Motors.

Although more narrow in their scope than some enhancement-type programs (e.g., tax relief or limitations on product liability), programs like those operating in California and Illinois qualify for three reasons as important additions to this milieu.

First, the retraining received by workers is essentially an investment intended to help the business achieve an improvement in its capacity to compete. Although only the human resources side of company operations is targeted by these new programs, the retraining is linked to other operational or technological changes. These changes are, in turn, designed to achieve a quality or price advantage. For instance, companies may adopt quality assurance systems (SPC), material or human resources management programs (MRP, quality circles) or just-in-time inventory practices.

Unlike the performance-based job training grant typical of the attraction efforts, the state is not seeking an explicit *quid pro quo* that the company will remain. Instead, the objective of the state is it wishes to achieve a stronger, more competitive business that functions above industry benchmarks based on key performance indicators. Examples of these indicators are such as unit costs, scrap costs, time of goods in production and individual worker productivity. Having met these standards, the company is presumed to be more likely to contribute to increases in community and individual wealth -- the primary goals of economic development programs.

Second, there is an underlying expectation at the operating agencies that intervention will establish a continuing practice at participating companies of integrating human resources development with their capital expenditures. This also is further evidence of the view that the primary result to be achieved from the retraining investment is an improvement in the relative position of the recipient firm. Such a view is based on a dynamic vision of the business environment and the actions that must be taken in order to survive; e.g., concurrent improvements in the skills of its workers as well as in production management systems or technologies.

In light of limitations on state resources and the potential demand for retraining assistance, it would be rational for the state to expect that the improvements achieved from the initial state retraining investment will produce sufficient resources within the company to pay for succeeding retraining efforts. In fact, the Prairie State 2000 Authority has imposed a one-time limit in its awards to firms (although this policy was loosened recently to permit companies

that once have received funds to seek assistance for retraining that is substantially different from the services funded initially).

Third, by linking retraining subsidies to specific business purposes, programs such as those operated by California and Illinois begin to integrate the goals underlying employment and training policies with the goals of economic development. As was noted earlier, the objective of economic development is to help increase community and individual wealth. In earlier, attraction-type uses of job training, the state essentially is indifferent about the progress of the workers within the subsidized firm once the business makes good on its commitment to stay or expand in the state or to relocate to the state. However, the state financed, workplace-based retraining programs operated by the Prairie State 2000 Authority or the Employment Training Panel go much further in that each agency seeks assurance that the workers will acquire skills that will be put to productive use.

In addition, it appears that these programs have tended to fund retraining for skills that will be applied directly by the recipient business as well by other businesses. For instance, both California and Illinois report funding many retraining projects in statistical process control (SPC) or materials resources planning (MRP). Although each project is tailored specifically to the company making use of the retraining, the basic principles learned by the workers in SPC or MRP may be transferred to a broad variety of manufacturing settings. In making the worker a more productive, flexible, and therefore, more valued employee, it would seem to follow that the risk of suffering prolonged displacement is somewhat reduced. Of course, such a result would match the primary goal of employment and training policies.

Although the use of job retraining as an enhancement strategy may be the basis for linking economic development with employment and training, several thorny issues emerge. One issue is investment impact. Not only is the competitive standing of the firm affected presumedly by the several changes undertaken at the company, but it is affected also by changes occurring among its competitors [Porter, 1985]. In addition, the timing of the effects from retraining and changes in the production management systems or technologies may vary by firm. Unlike attraction -type training subsidies that are tied to specific company performance within a given period of time, the timing of the returns from enhancement-type retraining investments cannot easily be pre-ordained.

Targeting and Substitution

The argument in favor of state grant-in-aid programs to business is that such aid may be applied directly to companies where it will have a substantial impact without substituting government resources for private ones. Critics contend that this presumption is fundamentally flawed for three reasons:

First, public policy makers and government officials possess neither accurate and timely information nor a reasonable basis for making correct decisions as to which industries should receive government assistance;

Second, even if information on industries and businesses were available and a proper decision model existed, many skeptics of targeted state retraining grants would argue that the process of making grant awards cannot be insulated sufficiently from outside political pressures.

Third, government knowledge about the condition of the applicant firms is imperfect, creating an opportunity for public funds to be used in situations where the businesses are able and, but for the availability of government subsidies, willing to pay for the retraining themselves.

Three generic strategies are examples of the range of economic development policies pursued by states in targeting government assistance by industry. One strategy promotes enhancement of key basic industries operating within the state. In this case, a "basic industry" is one that occupies a place that is relatively early in the value-adding process and is both a major customer as well as vendor within the state's business community.

Another strategy targets emerging industries that have no clear historic ties to the economic base. Such a diversification strategy has gained considerable popularity as demonstrated by the rush of states pursuing high technology industries.

Finally, a state may either be indifferent on the issue of basic versus emerging industries or choose one over the other, but target as well specific businesses that export their goods and services out of the state or that produce goods and services that substitute for imported products. Under such a scheme, the state could rationalize such use of its resources in terms of the additional wealth that accrues to both the community and individuals. Similarly, there are a myriad of other strategies that use components of one or all of these three or that are entirely original. The aggregation of all development strategies describe the universe of such state efforts.

Similarly, states also may invent various organizational structures to implement retraining programs. One factor affecting the organizational structure of a retraining program is the judgement by public officials as to the extent to which such a program must be insulated from outside political pressures. In California and Illinois, for instance, the two agencies offering assistance for workplace-based retraining are governed by independent, appointed boards. Other states may choose to operate such programs out of line departments. Irrespective of the solution, business, workers, the public and the press must be satisfied as to the legitimacy, efficiency and effectiveness of the grant awards process if the program ever is to become an effective economic development tool. Failing that, such programs end up as examples of failed partnerships between business and government.

However, the final criticism of discretionary grant programs pertains to the issue of government funds being used in place of private resources This criticism differs somewhat from the other two in that it calls into question the capacity of the state agency to determine whether the company would undertake the appropriate retraining in a timely fashion without the assistance of the state. These questions of **targeting** and **substitution** are effectively two sides of the same coin: the efficient application of public resources.

There are two necessary conditions to effective targeting by an agency offering government funds for workplace-based retraining.:

First, the agency should be assured that retraining will have a positive effect on the company. Specifically, it should determine whether labor skills cited in the company's training plan are likely to be important components of the value-adding activities of the business. In deciding whether state-subsidized retraining will make a material difference in the competitive prospects of the company, it is important to determine affirmatively that such retraining would introduce productive skills into the work environment.

Second, in targeting its resources government should assess the degree to which retraining funds are likely to *substitute* for private resources within the context of a targeted business. To some, the question of substitution hinges on the sources of government funds. Programs financed through a tax paid by employers in behalf of their employees, such like the one operated by California's Employment Training Panel, may be less susceptible to substitution questions than similar programs supported by general revenues.

Inasmuch as funds for an employer tax-supported program come from a specific class of taxpayers who, in turn, are eligible to receive assistance, policy makers may regard the revenues for a state-

financed, workplace-based retraining program as coming from a "special services tax." Put in this context, a program funded by such a tax may not be regarded as necessarily competing with other programs for scarce general revenue. Companies seeking financial assistance from the program need only meet the program criteria established by the state. The result is that a tax imposed on the intended recipient of retraining funds tends to minimize the importance of the substitution question.

However, there is no clear consensus that the true incidence of a unemployment insurance-type tax on employers is, in fact, the businesses that pay it. For instance, most labor economists would contend that the tax is paid by workers as a result of receiving lower wages. Such an argument may undermine the concept of the employer tax as a special services tax.

Irrespective of the source of funds, whenever substitution becomes a material issue, the resolution of the issue seems to hinge on whether it is reasonable for the applicant business alone to bear the cost of retraining its workers. An assessment of the likelihood of business to finance worker retraining without government assistance seems to revolve around several concerns:

1) the financial capacity of the firm to undertake the financing of the retraining;

2) the risk that the firm will suffer from a free-rider problem;

3) the risk that the retraining, in combination with specific technological improvements or organizational changes, will achieve anticipated changes in productivity and competitiveness;

4) the likelihood that the skills to be learned by participating workers will be in demand within their effective labor market in the event that the current employer decides to lay them off; and

5) the likelihood that businesses at the cutting edge of process technologies or management structures will find appropriately skilled workers within the existing labor pool.

The likelihood of substitution will vary with the kind of industry and the underlying characteristics of the workforce in that industry. For instance, it is logical that the likelihood of substitution would be very low in very competitive industries requiring highly skilled, highly valued workers in emerging technologies, e.g.,

machine tools. In order for the likelihood of substitution to be high, public or private educational institutions would have to take the highly unusual step of retraining workers in anticipation of the adoption of cutting edge technologies or management structures by area businesses within a given industry. In addition, the high demand for these skills increases the risk of member businesses to "free rider" problems. This may be aggravated further by high levels of competition within a given industry that may put the businesses within that industry in precarious financial circumstances.

At the other end of the continuum are mature industries using widely available technologies operated by an ample supply of skilled workers. In such instances, retraining subsidies in these industries are not likely to result in new competitive advantages for resident businesses against foreign competition.

Substitution considerations also extend to the firm level within given industries. The same criteria that are useful in assessing the likely level of substitution at the industrial level will apply to the firm level. Firms at the "low substitution" end of the continuum are those that demonstrate that there are real internal roadblocks to the timely retraining of their workers in a manner that achieves their business objectives. They also can show that there is a shortage of appropriately skilled workers and that the process technologies that these workers will encounter are sufficiently new so as to be beyond the scope of programs offered through the public education system that also is subsidized. Because of the newness of the technology, the firm also may be reticent to break new ground by becoming the first to retrain its workers in such systems. A firm at the "high substitution" end may simply find it more efficient to obtain the necessary skilled labor from the open market or from public educational and training institutions without having to incur any additional training costs.

Policy Issues.

Clearly, if state-funded, workplace-based retraining programs are to become a useful part of a state's package of economic development programs, they must be based on a better understanding of:

(1) the conditions under which employee retraining is an effective intervention to improve company performance and worker productivity;

(2) the role of employee retraining within a comprehensive business development strategy; and

(3) the conditions where the risk of substitution are minimized.

Employee retraining is not the answer to all business development problems. It seems that it is most effective when important preconditions are met, such as a comprehensive business strategy and the presence of appropriate technologies and work practices. Consequently, in order for state-financed, workplace-based employee retraining programs to be effective, they should be based on clear training objectives that are tied to a comprehensive appraisal of the operations of each firm, particularly in light of their effect on overall productivity and competitiveness. Such programs also should be designed to maximize economic impact by targeting them to businesses that cannot accomplish their objectives without the timely assistance of the state.

The following policy issues are derived essentially from the economic development rationale for state-financed, workplace-based retraining:

1) *Should a government retraining program be based on the assumption that retraining is associated with improvements in the competitive performance and position of the participating business?* The linkage between workplace-based retraining and a positive change in the performance and position of the participating business is open to question and should be established in order for state participation in such retraining to be justified as an element of an economic development strategy. In light of the state's interest in achieving greater community and individual wealth, its intervention with retraining assistance should be considered successful if the recipient company has achieved an associated improvement in its competitive performance.

   Changes in competitive performance and position may be determined by comparing various individual and group attributes with industry benchmarks or standards prior to the commencement of retraining and at some point after the completion of retraining. The timing of the post-training evaluation would vary most likely with the nature of the skills being introduced into the workplace and with the timing of other events.

   In addition to developing appropriate assessment criteria, such pre- and post- intervention assessments would require states to adopt new data collection and analysis methods. Therefore, key objectives in the development of a comprehensive evaluation system are to

define appropriate performance assessment criteria and to test the feasibility of states applying business performance assessments.

2) *Should the state require that the work environment at a company be altered in order to take advantage of state-financed skills retraining received by workers with state assistance?* The underlying policy is that the state should maximize the long term benefits of its investment by insisting that the business make structural improvements in the work environment.

This is based on the view that "productiveness" is not something that is carried solely in the heads and hands of workers. Other conditions generally must be present for workers' skills to be used efficiently and effectively. These conditions include the presence of proper tools and machinery in good working order and rational work rules that contribute to the success of the company as well as protect the health, safety and jobs of its workers.

An assessment system incorporating this view requires that government, worker and company representatives are able to recognize the environmental conditions that are sufficient and necessary to achieving a productive workforce. A key objective in the development of an evaluation system is to establish a means for recognizing and assessing environmental conditions affecting productivity.

3) *To what extent should state-supported, workplace-based retraining be targeted to transferable skills demanded by the effective labor market? To what extent should workers be provided with a thorough understanding of the underlying concepts for maximum flexibility? Should state subsidies emphasize workplace-based retraining where a likely outcome is an improvement in worker mobility?*

Occasionally, the state's interest in helping a particular company may conflict with broader public policy objectives. For instance, an employer often is dissuaded from making a retraining investment because it believes that the wages of its workers will be "bid up" by other businesses competing for their services or that the worker will leave for a better job. The state may encourage a business to implement technological and organizational improvements and make an investment in retraining by reducing the company's financial exposure by means of retraining subsidies.

However, the state also has an interest in encouraging other businesses in the same industry to adopt similar technological and organizational improvements by assuring them that there will be a sufficient supply of qualified workers to meet employer demands. In effect, the state wishes to encourage competition among businesses that it funds within its jurisdiction. This often will not work to the benefit of companies that initially receive help.

The problems faced by evaluators of state-financed, workplace-based retraining programs are that: 1) retraining assistance given to businesses adopting cutting edge technologies or practices lead demand for workers having particular kinds of skills, thereby denying the state an easy means of assessing transferability and labor market demand; and 2) the objective of mobility is possibly contradictory to performance-based contracts that base retraining assistance on worker retention. A skilled worker remaining on the job is expected to help the company achieve an improvement in its competitiveness. A comprehensive evaluation system should assess the feasibility of determining market demand and should accommodate for possible contradictions between employment and training and economic development policies.

4) What types of businesses should be targeted for retraining investments?

From an economic development perspective, the greatest net increase in wealth is achieved with government investments to those industries or businesses: a) that export much of their goods or services out of state; or b) that sell their goods and services to companies that use them as components of exported products; or c) that produce goods or services that will substitute for products imported into the state where there is competitive advantage with domestic products. Given this economic development imperative, states generally will seek to allocate scarce resources to companies that contribute to exports from the state or provide products that substitute for imports.

States also provide assistance to businesses in order to achieve other economic objectives, such as the retention of a key employer within a community, the prevention of a plant shutdown or a reaffirmation of the faith of public officials in the economy. The net effect on the state economy from such retraining subsidies may be zero: while the state may enhance the condition of one firm, it may do so at the expense of other businesses in the state.

As an alternative, states already attempt not only to improve the overall condition of their economies by mitigating the negative effects of a shutdown of a major business on a given community by subsidizing the operations of the firm. In effect, such a scheme avoids social costs and is an acknowledgment of the immobility of certain worker populations and seeks to avoid prolonged employment dislocations by attempting to prevent them in the first place.

Ultimately, these targeting questions are resolved individually by the states themselves. How they are resolved depends on the source of funds and the importance that the state places on giving its subsidies to businesses that will directly add to the collective wealth of their residents. Also, the question as to whether the state should chose between basic industries or emerging industries is a matter of policy and strategy for the individual state. In light of the variety of targeting objectives that may be used by a state, an evaluation system should be sufficiently flexible to provide state officials with an assessment of the performance of the program where such an assessment conforms with the state's own objectives.

5) To what extent is the substitution of government for private funds a material issue?

In some instances a *prima facie* case may be made that an investment of government retraining funds made in certain companies will produce a comparable net increase in the amount of retraining that occurs at the company. One set of examples is composed of companies that integrate retraining into overall business plans for improving their competitive positions and that clearly demonstrate financial need; e.g., businesses that are not paying dividends, that are not paying their executives excessive salaries nor are providing them with perquisites, or that are reinvesting all profits into their operations. Companies paying extraordinary dividends and executive salaries presumedly could afford to do the retraining on their own.

However, there may be other real barriers to retraining that the state may be effective in dismantling. Between these two extremes is a point where government assistance is instrumental in prompting a business to provide its workers with the necessary retraining in a timely manner. This point likely varies by company. It is a function of many variables, including available cash on hand, investor expectations, previous employer experience with retraining, the likelihood that retraining would be successful, the risk that other

companies will hire away newly retrained workers, historical industry trends in worker retraining and the available supply of skilled labor at the present location and at other possible sites. In order to be assured that the state has not paid for retraining that otherwise would occur, the aggregate effect of such variables should lead a prudent individual to conclude that retraining could not reasonably be accomplished in an appropriate and timely manner without outside subsidy.

The problem posed for program operators and program evaluators is that a rule of prudence is derived from case law and not from a set of *a priori* standards. Therefore, it is important to test the feasibility of establishing a rule of prudence that is derived from case law. Assuming that such a rule is feasible, it then will be the task of developers of an evaluation system to determine the feasibility of assessing the extent of substitution, if any.

IV. POLICY ISSUES FOR EVALUATION

As presented in Part A of this paper, state-financed, workplace-based retraining programs have arisen in the context of job training programs for displaced workers and economic development programs for business retention and development. Government essentially has two sets of interests that, depending on the policy objectives, coincide more closely with those of either businesses or workers. From the standpoint of economic development policy, the objective is to retain jobs in the state economy through improvements in the competitive standing of companies that operate in and from the state. However, from the standpoint of employment and training policy, government is more interested in retraining workers in skills that will improve their employment and earnings opportunities.

In pursuing these twin objectives, the agencies operating state-financed workplace-based retraining programs have the difficult task of balancing the interests of businesses, workers and government ... all who share the costs and benefits of such programs. Businesses want workers with skills that enable them to work productively. Therefore, these workers are required to have a particular combination or package of skills that complement the specific technological or organizational environment of the workplace. Optimally, each business wants retraining to be customized to its special needs. Consequently, it will attempt to concentrate its expenditures on retraining activities that are expected to have direct effects on business performance.

In contrast, workers are interested in learning skills that have a clear market value, both within the firm and generally within their effective labor markets. In learning these skills, these workers hope to maintain or enhance employment opportunities within the firm and improve their long-term employment and earnings prospects within these labor markets.

In reviewing and extending the policy rationale and objectives of the state-financed, workplace-based programs operated by California and Illinois, this paper describes one view on the balance that these programs achieve among the competing interests of businesses and workers. It also describes how these programs are designed to reduce unemployment and retain jobs. Although this perspective is consistent with the general objectives and administrative guidelines of these state programs, it highlights some programs areas (e.g., certified competencies) that have received limited attention by the operating agencies.

In an effort to promote critical discussion and establish a clear and objective conceptual framework for evaluation, this section summarizes the intervention model for state-financed, workplace-based retraining programs. This intervention

model describes the program outcomes that are necessary for state retraining programs to be successful in reducing unemployment and retaining jobs. This overview of the intervention model is followed by a brief discussion of targeting and substitution issues in making business funding decisions.

Intervention Model

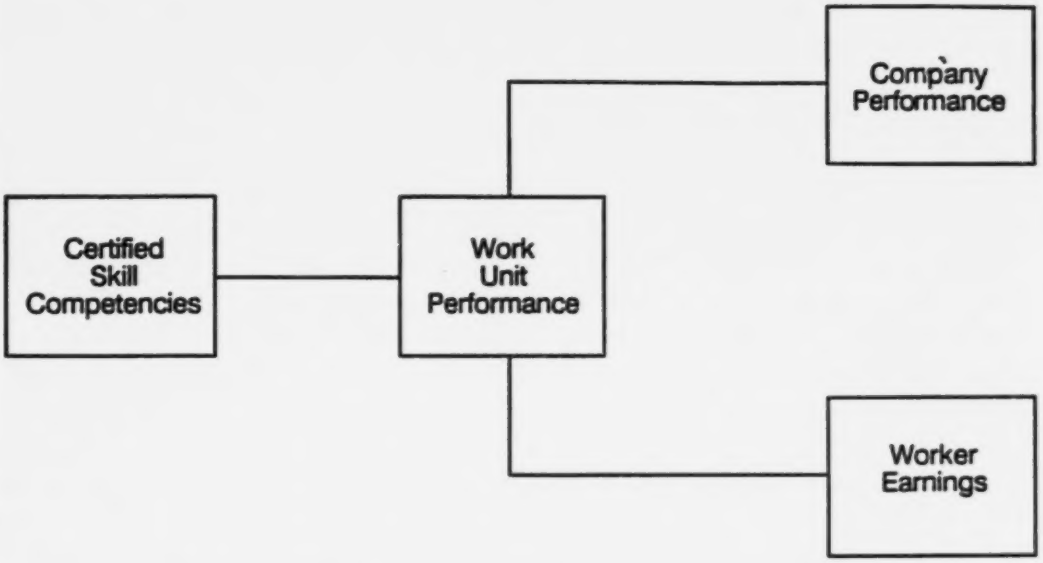
Most state-financed, workplace-based retraining programs are designed to reduce unemployment and retain jobs by retraining employees who are at risk of losing their jobs because of changing skill requirements in the workplace. They are based on the assumption that employee retraining reduces the incidence of unemployment and retains jobs by improving the productivity of workers. These programs assume that worker productivity is a product of both worker skills and the integration of these skills into a productive workplace. A productive workplace, in turn, is a product of a variety of factors including process technologies, job design, management-labor cooperation, compensation systems, and employment security policies. To be successful in reducing unemployment and retaining jobs, worker retraining must be tied integrally to larger workplace changes that are intended to improve work unit or company performance.

These programs are based on the rationale that the risk of unemployment is reduced and jobs are retained when workers are retrained in marketable skills that are successfully integrated into a larger company initiative to improve the competitiveness of the firm. On the one hand, an assumption underlying state-financed, workplace-based retraining programs is that jobs are retained when workers are retrained in conjunction with changes in process technology and work organization that are intended to improve the productivity of the work unit and the company relative to competitive standards in the industry. It is assumed that the state employment base of the company will remain stable if the company is successful in achieving or enhancing its competitive advantage through worker retraining. On the other hand, another underlying assumption is that the risk of future unemployment of retrained workers may be reduced as a function of workers achieving certified competencies in skills that: (1) contribute to improvements in work unit and company performance that, in turn, stabilize the employment base of the company, and (2) improve the likelihood that retrained workers will be able to find new jobs with these skill competencies if these retrained workers are dislocated because companies were not successful in maintaining or enhancing their competitive standing.

The intervention model for state-financed, workplace-based retraining programs is illustrated in Figure 1.

Figure 1

Intervention Model for Evaluation



The expected outcomes associated with workers achieving certified skill competencies in new process technologies or work processes are improvements in work unit performance. Improved work unit performance should produce corresponding improvements in company performance. In addition, worker retraining also is expected to maintain or increase worker earnings due to improvements in worker productivity and to an increased likelihood that retrained workers may be able to find comparable or better employment opportunities with other employers.

A successful retraining project is expected to result in the following performance outcomes:

- *Certified Skill Competencies.* Retrained workers achieve certified skill competencies that are designed to improve work unit performance and enhance the employment opportunities of workers outside the company.

- *Work Unit Performance.* Worker retraining is associated with improved performance of work units within the company.

- o *Company Performance.* Worker retraining and associated improvements in work unit performance are related to improvements in company performance.

- o *Worker Earnings.* Worker retraining results in stable or improved employment and earnings experiences for retrained workers.

Targeting and Substitution Issues

The effectiveness of the intervention model in reducing unemployment and retaining jobs is dependent on the ability of state agencies to target government assistance to businesses where it will have significant direct impact without substituting government resources for private ones. In light of the policy rationale and intervention model of state-financed, workplace-based retraining programs, three major targeting and substitution issues are important to the development of administrative guidelines for business funding decisions:

Competitive Strategy and Company Performance. The intervention model states that worker retraining will reduce unemployment and retain jobs when it is used as part of a larger company strategy to improve company performance and competitive standing. Therefore, state agencies should consider giving priority to those companies in which training is a critical component in their competitive strategy and is integrated with other workplace changes (e.g., technology) related to performance. As discussed earlier, one major economic development policy issue is whether state programs can effectively screen businesses based on a statement of business strategies and performance objectives.

Training in Marketable Skills. The intervention model also states that worker retraining will reduce unemployment and retain jobs when workers receive transferable skills that are in strong demand in state and local labor markets. In addition, substitution risks will be minimized because businesses will face greater "free-rider" risks and uncertainties and will be less willing to undertake training without some type of government assistance. Based on this assumption, state agencies should target those businesses that are retraining workers in marketable skills, especially where there is a recognized or anticipated skill shortage in state labor markets. Whether state programs can effectively identify marketable skills and potential skill shortages in state labor markets remains an important policy issue.

Financial Capacity and Commitment. As discussed in the economic development policy section, the most critical substitution issue is whether companies have the financial capacity and commitment to finance worker retraining without the assistance of government. State agencies should consider giving priority to companies that provide some type of assurance that the company would not undertake worker retraining in the necessary timeframe without government assistance. How state agencies should evaluate company statements of financial need is open to considerable debate.

The intervention model discussed in this section and these targeting and substitution issues provide the basis for developing a monitoring and evaluation system for state-financed, workplace-based retraining programs.

PART B: EVALUATION ISSUES

I. PROGRAM MONITORING AND EVALUATION

A permanent monitoring and evaluation system for state workplace-based retraining programs similar to those in Illinois and California should consist of three complementary and interrelated types of evaluation activities: *(1) process monitoring; (2) performance assessment;* and *(2) impact evaluation.* These three types of evaluation activities are complementary in the questions they address and in the functions they serve in the assessment of state workplace-based retraining programs. [Rossi and Freeman, 1985]

- *Process monitoring* determines whether workplace-based retraining programs are operated in accordance with stated program objectives and intervention models that are assumed to produce the desired program effects.

  It is directed at two major questions: (1) whether retraining programs are reaching the appropriate target population of businesses and workers, and (2) whether retraining programs are following administrative guidelines that minimize the possibility of substitution effects.

- *Performance assessment* determines whether a program has achieved the specific outcomes that accomplish the goals and objectives of the program. It asks whether the program has achieved the gross outcomes that are necessary to produce the desired effects.

- *Impact assessment* checks the validity of the intervention model; i.e., whether observed outcomes can be attributed to the intervention. In the case of workplace-based retraining programs, one such assessment may be to validate the cost-effectiveness of such programs in achieving a "net reduction" in unemployment or a "net increase" in job retention.

Once the policy issues and intervention models have been articulated, the first step in the development of a monitoring and evaluation system for state-financed, workplace-based retraining programs is to establish a process monitoring and performance assessment subsystem. Such a subsystem determines the extent that actual program operations: 1) conform to administrative guidelines on targeting and substitution; and 2) achieve the necessary intermediate and final

outcomes for the programs to have a significant impact on unemployment and job retention.

After such a process monitoring and performance assessment subsystem is firmly in place, the next step is to consider the feasibility of a net impact assessment subsystem. This subsystem measures and estimates the effects of the program in reducing the incidence of unemployment and retaining more jobs in the state economy.

Process monitoring and performance assessment are important preconditions for effective net impact evaluations. Although the policy issues forming the basis of an impact assessment generally are considered to be the most important, this type of evaluation is very difficult to design and implement. This is difficult especially for innovative programs undergoing continual development and change due, in part, to continued improvements in the sophistication of program operators. In addition, these programs are difficult to manipulate so as to achieve the required research designs.

Design Issues

In developing appropriate and feasible administrative guidelines and performance outcome measures for state-financed, workplace-based retraining programs, four major design issues should be considered:

- *Policy Consistency.* Consistency with the policy rationale, intervention model, and actual operation of state-financed, workplace-based retraining programs.

- *Program Application.* Effectiveness of the administrative guidelines and program outcome measures in improving the management and evaluation of state programs from the standpoint of program administrators and major program sponsors and stakeholders.

- *Measurement Capacity.* Capacity for valid and reliable measurement using existing or readily accessible data or data gathered through widely used testing and survey materials.

- *Consistency with Private Sector Practices.* Sufficient consistency with exemplary private sector practices so as to not impose

unreasonable costs or time delays and reduced interest in program participation.

The first three design considerations raise ordinary problems and issues in the development of administrative guidelines and performance outcome measures for public programs. Minimally, the evaluation system should flow logically from the policy rationale and intervention model that form the basis of the program. These administrative guidelines and performance measures also should be pragmatic, easily understood and measurable.

Inasmuch as retraining is conducted within firms, state agencies should ensure that these administrative guidelines and performance measures are consistent with private sector practices. Also, these programs depend on voluntary business participation and are designed to encourage and facilitate retraining initiatives in the private sector. Therefore, the reporting requirements from an evaluation system should be based in part on information that companies realistically should be expected to collect as part of their own evaluation and monitoring efforts. In the event that the state is not consistent with leading private sector evaluation practices, the result will include added costs to the participating businesses, time delays and reduced business interest.

II. PROPOSED ADMINISTRATIVE GUIDELINES FOR BUSINESS SCREENING

A major policy problem for state-financed, workplace-based retraining programs is achieving an efficient and effective method for targeting training investments to businesses and workers where such investments will have the greatest impact. As presented in the policy discussion and the discussion of the intervention model, retraining projects will have their greatest impact when:

(1) worker retraining is integrated into larger company plans to improve company performance and maintain or enhance its competitive standing within its industry;

(2) worker retraining is a critical factor in improving company performance because of significant changes in skill requirements;

(3) retraining provides workers with transferable skills that are likely to be in high demand in their effective labor markets; and

(4) companies are unlikely to undertake the retraining without outside intervention such as government assistance.

Although retraining programs may establish a broad variety of administrative guidelines as the basis for a process monitoring system, the administrative guidelines for business screening -- business selection and substitution minimization -- should be applicable in most programs.

Selection Guidelines

State-financed, workplace-based retraining programs should establish clearly defined screening guidelines for evaluating company retraining proposals. These guidelines should address: (1) company performance objectives relative to industry performance standards; (2) documentation on existing skills of workers relative to new skill requirements; and (3) the projected demand for new skills in the effective state labor markets.

State retraining programs first should establish administrative guidelines for selecting only those companies that can meet the first three conditions for program impact. As shown in Table 1, these conditions provide the basis for selection guidelines that can be used to assess whether it is appropriate for the company to receive retraining assistance.

In addressing the first selection guideline, state programs would assess a company retraining proposal on whether the company has designed worker retraining that would contribute to improvements in company performance and maintain or enhance competitive standing. As presented in the discussion of policy issues, businesses would be expected to provide a brief project plan that explains the proposed worker retraining in the context of major changes in process technology or work organization and that sets forth clear and measurable objectives that are relevant to their competitive strategies. Each set of project plans would explain the importance of each performance indicator (e.g., unit costs, quality standards) in the context of the associated competitive strategy and in the performance benchmarks that are generally accepted by the industry. These company performance expectations would be established jointly by businesses and state retraining programs.

The major feasibility issue for this selection guideline is the ability of the company to define measurable performance goals and their ability to relate these performance goals to objective industry performance standards. A related issue is the capacity of state program staff to utilize readily available industry information in evaluating these company retraining proposals. Although state business retention and development programs have become involved in assessing business strategies and competitive problems, only limited work has been done on techniques for defining and measuring competitive standing. Nevertheless, in developing competitive strategies, many companies typically gather information on their competitive position relative to other businesses. Although this information is often informal and may be based on a small sample of competitors, it is critical in setting reasonable and effective goals when planning major changes in technology and work organization.

In light of the need to formalize and systematize this type of information within an industry, many countries (e.g., Canada and Japan) as well as some industry associations in the United States have collected and presented comparative data to companies to assist them in strategic planning. One example of these efforts is the Interfirm Productivity Comparison (IFC) approach that has been tested by the machine tool and electronics industries in the United States [Bearse, 1987]. Using this approach, businesses within a particular industry submit productivity and performance information (e.g., labor productivity measures) to a government agency

or to a major trade association. These data are aggregated and analyzed with the result being a set of industry performance standards. In return, the company receives a report that compares it to the average performance levels of businesses within its product area and size class. This information allows companies to analyze overall company performance in terms of comparative information in detailed performance categories.

This general approach demonstrates that a state program may stimulate state economic development agencies and industry trade associations to promote the accumulation and dissemination of comparative information for industries and businesses targeted for retraining investments. This example also suggests that comparative company information will improve planning and coordination by state employment and training and economic development programs and provide industry trade associations with a clear role in state economic development and employment and training efforts.

Although the IFC approach provides a useful starting point, it has a number of limitations that must be explored in the project. First, the IFC productivity indicators in their current form are too broad to provide a useful comparison for specific company strategies. Therefore, these measures will need to be refined and made more flexible if they are to accommodate the project proposals typically received by state retraining programs. Second, the IFC framework, or a similar interfirm comparison method, may be too costly to implement and operate. If costs are too high then an alternative planning and evaluation tool for state retraining programs will need to be developed.

The second selection guideline on changing skill requirements would require state programs to document such changes and may prompt them to determine whether the workers require retraining to perform their new jobs. It is uncertain whether companies are able to or would be willing to define and measure existing skill levels of workers relative to changing workplace requirements. Indeed, it may be too difficult for some companies to document sufficiently the new skill requirements coming from changes in process technology or work organization. In order to answer these feasibility questions, companies will be asked about their willingness and ability to do skill testing. In addition, examples will be sought of companies in similar industries that have done skill testing and assessment in their own retraining programs.

The third selection guideline would assess whether state-financed, workplace-based retraining program are retraining workers in marketable skills that are projected to be in demand in the workers' effective labor markets. This raises questions on the capacity of state retraining programs to project or certify skill shortages in a given labor market. There typically are three sources for this

information: (1) industry or trade association information on retraining needs, (2) state or local labor market information on occupational supply and demand, and (3) direct employer telephone surveys on training and hiring needs. All three sources of market demand information will be assessed as part of the case studies on the basis of ease of access, utility and cost.

Although other possible targeting guidelines are suggested in Part A of this paper, none appear to have universal application. States will use a variety of other targeting criteria depending on their economic development policies. In light of this variety, such industry and firm targeting issues are put beyond the scope of this evaluation project and will not be addressed directly in the case studies.

> **State-financed, workplace-based retraining programs should establish planning and administrative procedures that will minimize substitution effects in retraining projects. These procedures should address: (1) company's statement of financial need or reluctance; (2) the degree of retraining in marketable skills; (3) previous retraining expenditures by the company; and (4) disinvestment decisions that would affect the state economy.**

In addition to establishing clearly defined screening guidelines for evaluating company retraining proposals, state-financed, workplace-based retraining programs also have the difficult and important task of establishing effective safeguards against substitution; i.e., the funding of retraining projects that would have been done at the same level and in the same timeframe through private funds even without government assistance. Limitations on the use and capacity of government resources, practical political considerations and the desirability of tying state expenditures to specific outcomes will require state agencies to establish planning and review guidelines for assessing the capacity of an applicant company to use its own resources in retraining workers. Minimally, state agencies likely will require written assurances from the company that government assistance is required to achieved the desired level of retraining in a timely fashion. State-financed, workplace-based retraining programs in California and Illinois already require such written assurances from participating companies.

However, at least four additional types of documentation should be considered in evaluating company retraining proposals. In addition to a written assurance on the need for government assistance, companies also should provide accompanying documentation on at least one of the following: (1) financial need or general corporate reluctance to undertake such retraining;; (2) the absence of previous retraining expenditures in similar skill areas with similar workers; (3)

substantial shift in skill requirements requiring retraining in marketable skills; or (4) efforts to forestall possible company disinvestment decisions (See Table 1).

The most difficult substitution guideline to address is the degree to which retraining projects are training workers in marketable skills that are in demand in the worker's effective labor markets. The clearest indicator of skill marketability is evidence of demand for that skill outside the company (e.g., secondary labor market information, want ads, solicitation by other companies for comparably skilled workers). The policy section argued that companies would be less likely to conduct worker retraining without government intervention in situations where they were helping workers to acquire marketable skills that could be lost by the company to other employers. In this situation, such retraining programs approach the same level of substitution as that of retraining programs offered by government-operated providers (e.g., community colleges, vocational education institutions).

The feasibility of this screening guideline will be assessed using three sources of market demand information: (1) industry or trade association information on retraining needs, (2) state and local labor market information on occupational supply and demand, and (3) direct employer telephone surveys on retraining needs.

As shown in Table 1, the major feasibility questions that will be explored in the case studies address the capacity of companies and state retraining programs to develop and document the required information during the application process. These feasibility questions will be examined through reviews of retraining proposals, business site interviews, interviews with program staff and reviews of available state and local labor market and economic data.

III. PROPOSED PERFORMANCE INDICATORS AND RELATED RESEARCH QUESTIONS

A performance assessment system is based on a set of outcome indicators that may be associated with each objective of a given program. The performance measures described below establish the program as the unit of evaluation and are derived by aggregating the performance outcomes of separate company retraining projects. These company retraining projects will provide the basis for the case studies in this evaluation project. The major feasibility questions and research activities for the case studies are listed in Table 2. The specific questions addressed in each research activity are provided in the last section.

Certified Competencies in Marketable Skills

Based on the intervention model discussed in Part A, state-financed, workplace-based retraining programs may be evaluated partially on the degree to which workers end up with certified competencies in marketable skills that are critical in improving work unit and company performance and are in demand in the workers' effective labor markets. Measures of transferability and market demand are discussed in the previous section as business screening issues. Performance outcome measures address the level of competencies in skills identified in the retraining plan as exhibited by workers at the end of the retraining project.

> **State-financed, workplace-based retraining programs should assure that workers are tested on marketable skill competencies before and after retraining with the program evaluated on the percentage of workers achieving the required skill competencies established in the retraining project plans.**

Competency-based training and evaluation has been proposed and used in employment and training programs for many years. It has been applied in secondary vocational education and Job Corps and is now being implemented as a basis for evaluating youth programs in JTPA. Competency-based training and evaluation also has been identified as a major area of business evaluation activity [Dvorin, 1986] especially in companies that have instituted knowledge-based compensation systems [Lawler and Ledford, 1985]. Because of this previous evaluation experience in both government and business, this program outcome measure should be given detailed consideration in the evaluation of state-financed, workplace-based retraining programs.

Work Unit Performance

State-financed, workplace-based retraining programs may be evaluated on the degree to which worker retraining is associated with improvements in work unit performance consistent with the objectives identified in the retraining plan.

> **State-financed, workplace-based retraining programs should assure that work unit performance is assessed after retraining. The program should be evaluated on the percentage of work units achieving the performance objectives established in the retraining plan. Work unit performance should be evaluated after 90 days of on-the-job experience.**

An objective in most employment and training programs is to achieve gains in the wages and earnings of workers through improvements in productivity. Although most employment and training evaluations do not measure worker productivity directly, Bishop has proposed that productivity improvement measures be included in program evaluation efforts for employment and training programs [Bishop, 1987]. Similar approaches have been suggested in training evaluation of business-operated programs [Dvorin, 1986]. This study will test the feasibility of using work unit performance measurements as the basis for assessing productivity improvements. This test will be done in light of serious problems with supervisor-based performance appraisal and given the underlying assumption that productivity is largely a phenomenon of the work unit. Such measures will be taken after the completion of retraining and will be assessed against the performance expectations established in the company retraining proposal.

Some state-financed, workplace-based retraining programs, especially those operated in California and Illinois, already evaluate retraining projects based on the retention of retrained workers 90 days after retraining. The scheme proposed above expands the assessment to include an appraisal of work unit performance in light of pre-training expectations.

Company Performance

State-financed, workplace-based retraining programs may be evaluated in terms of the strength of their association with improvements in the competitiveness of participating businesses. As discussed in Part A, businesses should be expected to

provide brief project plans that explain the roles that worker retraining will play in the context of major changes in technology or work organization. Such plans would state these roles in terms of improvements in company performances as marked against clear and measurable objectives that are important to their current competitive standing within their respective industries. These company performance expectations should be established jointly by businesses and state retraining agencies and should be based on objective industry benchmarks that provide external validation for minimal industry standards. These screening issues were discussed in the previous section.

> **State-financed, workplace-based retraining programs should assess improvements in company performance relative to objective industry benchmarks approximately 1-2 years after completion of retraining. These programs should be evaluated by the percentage of companies that achieve their planned performance goals that were established relative to industry benchmarks in the project plan.**

The evaluation of job retraining investments in terms of returns to company performance is gaining acceptance by businesses, especially by large corporations. There is a growing trend to apply organizational performance standards and results as the criteria for training evaluation [(Dvorin, 1986; Robinson, 1987; Nickols, 1979)]. A major problem with this approach is that it is difficult to isolate the effects of retraining from other workplace changes that also contribute to changes in company performance. In a performance assessment system (as opposed to a net impact evaluation system), there are major concerns regarding the validity and reliability of outcome measures and with the logical relationship between certified worker competencies and work unit or company performance.

Wages and Earnings of Workers

State-financed, workplace-based retraining programs may be assessed on their effect on the wages and earnings of workers. Improvements in workers' skills and job performance, especially when they contribute to improved company performance, should result in a reduced incidence in unemployment and improved annual earnings.

> **State-financed, workplace-based retraining programs should assess improvements in annual earnings among retrained workers approximately 1 year after completion of retraining.**

Previous evaluations of federal and state employment and training programs have assessed mainly the effects of job training on the wages and earnings of workers. This type of performance monitoring already has been implemented by state workplace-based retraining programs (e.g., Moore, Wilms and Bolus, 1988) using state Unemployment Insurance records. A number of researchers have questioned whether such earnings information provides clear, unbiased estimates of the effectiveness of government training programs [Bishop, 1988]. In addition, a number of conceptual problems are encountered when pre- and post-training earnings are used to assess dislocated worker programs and state workplace-based retraining programs when they retrain experienced workers with extensive previous work experience and high-wage rates. In some cases, retrained workers will be placed in new jobs in which they have no previous work experience or skill training and which provide similar or lower wage rates. The major conceptual problem is the assumption that prior earnings are a valid indicator of the earnings that workers would receive in the absence of retraining. In many cases, prior earnings provides an inflated estimate of expected earnings in the absence of retraining. Comparison groups of workers who did not complete retraining also provide biased estimates because of unmeasured differences between those workers who did not complete training. These conceptual and methodological issues will be addressed and illustrated in the case studies.

IV. NET IMPACT EVALUATION AND RELATED RESEARCH ISSUES

The history of net impact evaluation in employment and training programs over the last 10 years has been marked by a continuing debate on the relative strengths and weakness of experimental versus quasi-experimental research designs (e.g., Barnow, 1986; Burtless and Orr, 1986). Experimental designs require the random selection of program participants from a pool of eligible potential participants. In contrast, quasi-experimental designs develop matched control groups for comparison with program participants. While random assignment is an obvious advantage in establishing a research design with strong internal validity, classical experiments have three major disadvantages that make them inappropriate for most state workplace-based retraining programs:

First, classical experiments are extremely difficult and costly to implement because they require extensive and continual field work to maintain the research design;

Second, they tend to change the very nature of the programs they are designed to evaluate;

Third, and most important, classical experiments require that program deny or significantly delay services to a random set of businesses or workers. This is extremely difficult to justify in ongoing programs, especially programs that continually confront sensitive decisions on which businesses should receive state retraining funds.

Based on the major problems associated with classical experiments, quasi-experimental designs appear on their face to be more feasible as the basis for an impact evaluation system.

The major advantage of net impact evaluation for prevention programs such as state-financed, workplace-based retraining programs is that program objectives can be measured directly. In the case of state workplace-based retraining programs, the twin objectives of job retention and reductions in unemployment may be evaluated through comparison group designs. In addition, two additional program effects that are difficult to assess through gross program outcomes -- earnings gains and reductions in unemployment insurance expenditures -- may be measured more accurately through comparison group designs.

Although comparison group designs have been used extensively in the evaluation of employment and training programs (e.g., Barnow, 1986; State of Washington, 1987), they have yet to be developed for programs that retrain employed workers. The major problems in achieving such an evaluation are in the development of comparison groups of businesses and workers and in the identification of major business and worker characteristics that must be controlled before an estimate of the impact of the program may be made.

> **State-financed, workplace-based retraining programs should explore quasi-experimental designs in developing impact evaluation capabilities. States should consider four major impact measures: (1) net job retention in participating companies; (2) direct and indirect economic impact of retained jobs on the state economy; (3) net earnings gains of retrained workers; and (4) net savings on unemployment insurance.**

In exploring the feasibility of net impact assessments using quasi-experimental designs, this study will address the methodological and data problems that state programs would face in developing valid comparison groups of businesses and workers and how they could collect reliable comparison information on the recommended impact measures:

(1) What are the major sources of business data that could potentially be used to build reliable comparison groups (e.g., company applicant files, state UI files, Dun and Bradstreet, industry association surveys such as IFC)?

(2) What major business and worker characteristics should be measured in estimating net impacts through comparison group designs?

(3) What are the major data limitations that should be addressed in measuring these business and worker variables?

(4) What is the most appropriate comparison group design given these data limitations?

(5) What are the potential administrative costs to state programs and participating businesses in operating such an impact evaluation?

V. PROPOSED RESEARCH DESIGN FOR CASE STUDIES

Based on the discussion of policy and evaluation issues, this project will conduct 24 case studies of retraining projects that have been funded by state-financed, workplace-based retraining programs. These cases will be selected from retraining projects funded by California's Employment Training Panel and Illinois' Prairie State 2000 Authority (ETAP). Additional cases will be selected from similar programs or projects in other states. These case studies will be designed to assess: (1) the accuracy of the intervention model presented in Part A of this paper in describing the actual operation of state-financed, workplace-based retraining programs, and (2) the feasibility of establishing the proposed administrative guidelines, program outcome measures, and net impact measures for a monitoring and evaluation system. This section describes the proposed sampling design and field work activities for the project case studies.

Project Sampling Design and Research Activities

A two-step sampling design for selecting retraining projects will be used to assess the accuracy of the intervention model and the feasibility of the proposed monitoring, performance, and evaluation indicators. The population of retraining projects that will be considered in the case studies is all retraining contracts that have been funded within the last two years and that are scheduled to be completed at least 90 days before the end of the case study period. In addition, retraining projects must meet the following conditions:

- Retraining funds must be awarded to companies and these companies are given the authority to select the type of retraining and the training provider.
- The retraining funded by the state programs must involve vocational skill retraining away from the normal routines of work.
- The retraining project must address changing skill requirements based on technology change or job restructuring.
- The purpose of the retraining project is tied clearly to improvements in company performance that can be measured by a performance indicator (e.g., unit costs, quality standards).

The first step will include a brief review of all retraining contracts with companies that meet these conditions in California and Illinois. It also will include

a review of the policies and procedures of the state program and interviews with program staff as a means of understanding the application of these policies and procedures in the planning and completion of each retraining project.

Based on the program review and these interviews, a purposive sample of state retraining projects will be drawn with the assistance of the agency staff. This sample will be composed of projects that best illustrate the policy rationale and intervention model developed in this paper. It also will be selected to illustrate the application of administrative guidelines in solving business selection and substitution problems. Finally, the retraining projects that are selected will be the best demonstration of the potential of measuring the program outcomes and impacts proposed in previous sections. To the extent possible given any limitations on the variety and scope of possible case studies, the purposive sample will provide a representative array of projects in manufacturing and non-manufacturing firms as well as large (500 and over employees) and small (less than 500) firms. At least one case in the sample will be a project that was completed at least 1 year prior to the time of study. This will permit the measurement of program outcomes on trainee earnings and company performance.

Phase I: Program Review and Exploratory Case Studies

The project case studies will be conducted in two phases. The first phase will begin with a review of all retraining projects meeting the project sampling criteria discussed above. It also will include an exploratory examination of three of the sampled cases in California and Illinois. The purpose of this exploratory work is to test the policy rationale and intervention model and to gain a rough assessment of the feasibility of the administrative guidelines and outcome and impact measures proposed in this paper. A final set of administrative guidelines and outcome and impact measures for state-financed, workplace-based retraining programs will be developed based on the results of this exploratory phase. The revised evaluation system will be used on the remaining case studies, including the additional cases from other states.

Exploratory Case Studies.

The exploratory project case studies will consist of six separate steps for each state agency involved in the study:

Retraining Project Review. As discussed above, the first major work task will be a review of all state-financed, workplace-based retraining projects meeting the sampling criteria. The purpose of this review is to collect secondary information on: (1) company performance goals; (2) skill retraining areas; and (3) type of training provider in order to assess the feasibility of defining and measuring company performance and general skill competencies and to assess the representativeness of the projects included in the detailed case studies. The program staff also will be interviewed on each retraining project in order to assess the applicability of the policy rationale and intervention model to each retraining project. Based on this project review, a purposive sample of projects will be selected for detailed case studies. After selecting the training projects, the results achieved from the overall review will be used to re-assess the overall representativeness of the purposive sample and the limitations that such a sample will impose on future conclusions.

Company Background Review. The second step will involve background research on the companies selected for the case studies. Current business information on the company and major trends and shifts in the industry will be reviewed. Also included in the review is information provided by national and state trade associations. The purpose of this background review is to prepare for the business interview sessions and identify potential sources of comparative industry information for establishing industry benchmarks.

Program Staff Interview. The third step will involve a detailed interview of state agency staff regarding the planning, funding and monitoring activities that were carried out in the retraining project. The staff will be questioned regarding its understanding of the purpose and rationale of the project; its assessment of the retraining plan, including the selection of the retraining provider; and its assessment of the results of the project.

Business Interview. The fourth step will involve 2-day interviews at the business establishments. The interviews will be conducted with senior management and project coordinators, unit supervisors, as well as union representatives and trainees. The purpose of these interviews is to understand the major business performance goals and skill competencies contained in the retraining proposal. The issues addressed in these interviews are listed in Table 3 in Appendix A and in Appendix B.

Identification of Testing Materials. This work task is a review of the content of the skill retraining and the identification of comparable skill competency instructional and testing material. Businesses or training providers that have used these materials will be interviewed. The outcomes of this task will be the basis for assessing the feasibility of a company or training provider developing or acquiring similar training and testing material in the chosen skill training area.

Industry and Labor Market Information Review. The final step will involve research into the industry and labor market information that state agencies may use as the basis for objective industry benchmarks of company performance goals and for defining general skill competencies and assessing their future labor market demand. This will involve a review of available information and telephone interviews with industry association representatives and state LMI and economic development staff (See Tables 1 and 2 in Appendix A)

Business Interviews.

The business interviews will involve 2-day site visits with separate interviews with the chief executive officer of the business establishment (e.g., plant manager), the human resource and training managers, the project director or coordinator, production supervisors from the units where retrained workers are employed, the training providers and retrained workers themselves. The major purpose of these interviews is to assess the feasibility of proposed administrative guidelines on targeting and substitution and the program outcome measures. Table 3 lists the feasibility topics in each interview session described below. A more detailed description of interview topics is provided in Appendix B.

Session 1: Project Director/Coordinator. The first interview session will be held with the project director or the person responsible for the training proposal that was developed for the state agency. This session will focus on the approach that was taken in designing the project and on its implementation. This session also will be used to get an initial introduction to the structure and operations of the establishment. Finally, this session will be used to review available written information on the company retraining project.

Session 2: Upper Management. The upper management interviews will focus on the company's retraining objectives and on its decision to invest money in retraining. In addition, these interviews will focus on the role that the state played in the company's final decision to proceed with the project. These interviews will

address specific company performance goals and perceived results from the retraining.

Session 3: Training Provider Interviews. The training provider interviews will focus on the provider's perception of the purpose and skill requirements of the retraining. In addition, the provider will be asked about its role in establishing the skill competency requirements and the resources and training time needed for the project. These interviews will also cover the sources of the instructional, testing and evaluation materials use in the retraining project.

Session 4: Supervisor Interviews. The supervisor interviews will concentrate on how the company evaluates the performance of the work unit and what types of performance assessment they feel is appropriate after skill retraining and competency testing.

Session 5: Worker and Union Interviews. The final interview session will be held with a representative sample of retrained workers and their union representatives (where applicable). These sessions will parallel the supervisor interviews and will focus on worker testing and selection as well as their perspective on work unit performance assessment.

This first phase of the case studies will result in an interim report. This report will discuss the program review and the results of the exploratory case studies. It also will include recommendations on revisions to the intervention model and to the design of the monitoring and evaluation system.

Phase II - Final Project Case Studies

The second and final phase of the case studies will involve a research design that closely follows the research design of the exploratory case studies. The final case studies will demonstrate the application of the revised administrative guidelines and procedures and program outcome measures to a sample of retraining projects. The results drawn from these case studies will be the basis for conclusions on the applicability and effectiveness of the proposed evaluation design for state-financed, workplace-based retraining programs. These case studies also will be the basis for information on each program outcome measure (e.g. company performance, wages and earnings, demonstrated job performance) and will serve as illustrations of the appropriateness and feasibility of the proposed evaluation system. Finally, the case studies will afford the opportunity to review and report on alternative net impact designs that may be considered for future implementation by these state programs.

The final report for both phases of the project case studies will contain conclusions on whether: (1) state-financed workplace-based retraining programs operate in accordance with the policy rationale and intervention model developed in this paper; and (2) the procedural guidelines, performance outcomes, and impact measures proposed in this paper are feasible and appropriate as the basis for a permanent monitoring and evaluation system. This report also will report assessments of program and project performance of Phase II case studies based on information that is available during the case study period. These case studies will provide a preliminary evaluation of state-financed, workplace-based retraining programs and will provide a final illustration of the feasibility of the proposed monitoring and evaluation system.

APPENDIX A

Table I
Proposed Indicators of Program Compliance with Business Screening Guidelines and Related Research Questions

Business Screening Guidelines	Compliance Indicators	Data Requirements	Major Feasibility Questions	Research Activities
Selection Guidelines				
Company Performance Objectives.	Percentage of Companies presenting measurable performance objectives in terms of industry performance standards.	Company documentation on measurable performance objectives. Company or state information on industry performance benchmarks or standards.	Can companies relate their training plans to clear and measurable company performance goals? Can companies or state program staff identify reliable information on industry benchmarks for assessing changes in competitive standing?	Review of training proposals. Business site interviews. Telephone interviews with state industry associations. Business site interviews.
Major Skill Matches.	Percentage of companies documenting major changes in skill requirements and skill mismatches with present workforce.	Company documentation of changes in skill requirements and worker skills.	Can companies define measurable skill requirements in their training plans? Can state programs expect companies to assess worker skills and document skill mismatches in the application process?	Review of training proposals. Business interviews.
Skill Shortages in the State.	Percentage of companies training in occupational areas of recognized skill shortages.	Skill supply and and demand data for designating skill shortages in state and local labor markets.	Is there any reliable information on supply and demand for occupational skills that can be used to project or certify skill shorages in state or local labor markets?	Review of available labor market information for the state. Telephone interviews with LMI producers in the state.
Substitution Guidelines				
State of Need for Training Assistance.	Percentage of companies providing written assurance of need for training assistance in order to accomplish training objectives.	Company documentation in training proposal.	Can state programs establish effective financial need statements for business applications?	Reviews of training proposals. Interviews with program staff. Business interviews.
Transferable Skill Training.	Percentage of companies providing general skill training that is transferable to other employers.	Company documentation in training proposal.	Can state programs establish reliable guidelines for judging skill transferability?	Reviews of training proposals. Interviews with program staff. Business interviews.

Table I (cont.)

Business Screening Guidelines	Compliance Indicators	Data Requirements	Major Feasibility Questions	Research Activities
Substitution Guidelines (cont.)				
Financial Need.	Percentage of companies providing written documentation of financial need.	Company documentation in training proposal.	What types of financial information are necessary to establish financial need?	Reviews of training proposals. Interviews with program staff. Business interviews.
Previous Training Expenditures.	Percentage of companies providing written documentation that they have not engaged before in this type of training at the proposed scale and scope.	Company documentation in training proposal.	Can companies easily document that they have not engaged previously in similar training?	Reviews of training proposals. Interviews with program staff. Business interviews.
Disinvestment Decisions.	Percentage of companies providing written documentation that the proposed training is necessary to prevent company disinvestment.	Company documentation in training proposal.	Can compaines easily document that training is necessary to prevent company disinvestment?	Review of training proposal. Interviews with program staff. Business interviews.

Table II
Proposed Measures and Research Issues for Assessing Program Outcomes

Performance Outcomes	Proposed Measures	Data Requirements	Major Feasibility Questions	Research Activities
Certifed Skill Competencies.	Percentage of trainees achieving required skill competencies.	Competency tests after training completion.	Can companies define measurable skill competencies in their training plans? What types of competency test materials are potentially available to companies and training providers and what are the added administrative costs in using similar competency materials?	Review of training proposals. Business interviews. Review of available competency materials. Telephone interviews with users of competency materials.
Work Unit Performance.	Percentage of work units achieving performance objectives after 90 days of on-the-job experience.	Work unit performance data from company 90 days after training.	Can companies define measurable performance objectives for work units in their training plans?	Review of training proposals. Interviews with program staff. Interviews with union representatives and trainees on evaluating work unit performance.
Company Performance.	Percentage of companies achieving their performance objectives 1-2 years after training.	Company performance data reported in training proposals and follow-up reports.	Can companies relate their training plans to clear and measurable company performance goals and set reasonable time frames for measuring outcomes. Can companies be expected to collect and provide performance information after training? What types of confidentiality issues will programs likely encounter?	Review of training proposals. Business site interviews.
Wages and Earnings of Trainees.	Percentage of trainees maintaing or increasing annual earnings 1 year after training.	Quarterly earnings data from state UI records for 1 year before and 1 year after training.	Are state UI earnings data available on a quarterly basis for the required time period? What are the administrative costs of acquiring and using UI earnings data for program evaluation?	Review of state UI earnings data and cost information. Telephone interviews with ES staff.

Table III
Indicators of Program Compliance and Performance Coutcomes Addressed in the Business Interview Sessions

Administrative Guidelines and Performance Outcomes	Session 1: Project Director	Session 2: Upper Management	Session 3: Training Provider	Session 4: Supervisors	Session 5: Unions/Trainees
Selection Guidelines					
Company Performance Objectives.	Company decision to retrain workers. Information considered in setting performance objectives. Results from training on performance objectives.	Company decision to retrain workers. Information considered in setting performance objectives.	Use of performance objectives in designing and evaluating training.		
Major Skill Mismatches.	Skill testing and selection of trainees.		Skill testing and selection of trainees.		Skill testing and selection of trainees.
Skill Shortages in the State.	Company decision to retrain workers.				
Substitution Guidelines					
Statement of Need for Training Assistance.	Statement submitted in training proposal. Reason for company seeking training.	Reason for company seeking training assistance.			
Transferable Skill Training.	Information request on skill training requirements.		Information request on skill training requirements and training and testing materials.		Trainee perceptions of skill transferability.

Table III (cont.)

Administrative Guidelines and Performance Outcomes	Session 1: Project Director	Session 2: Upper Management	Session 3: Training Provider	Session 4: Supervisors	Session 5: Unions/Trainees
Subetitution Guidelines (cont.)					
Financial Need.	Information request for financial data. Company decision to seek training assistance.	Company decision to seek training assistance.			
Previous Training Expenditures.	Information request on previous training expenditures for the last five years.				
Disinvestment Decision	Company decision to retrain workers.	Company decision to retrain workers.			
Performance Outcomes					
Certified Skill Training.	Information request on skill training requirements. Company decision on transferable skill training. Company requests for skill testing before and/or after training.	Company decision on transferable skill training. Company requests for skill testing before and/or after training.	Information request on skill training requirements and training and testing materials.		
Work Unit Performance.	Work unit performance expectations of company. Company request for performance of work unit after training.	Work unit performance expectations of company.	Information request on work unit performance assessment after training.	Work unit performance expectations of company.	Work unit performance expectations of company.

Table III (cont.)

Administrative Guidelines and Performance Outcomes	Session 1: Project Director	Session 2: Upper Management	Session 3: Training Provider	Session 4: Supervisors	Session 5: Unions/Trainees
Performance Outcomes (cont.)					
Company Performance.	Results from training on performance goals.	Results from training on performance goals.			
Wages and Earnings.	Information request on employment status and earnings of trainees.				

APPENDIX B

DATA REQUESTS AND INTERVIEW TOPICS FOR THE EXPLORATORY BUSINESS SITE INTERVIEWS

The business interviews for the exploratory case studies will involve 2-day site visits at the business establishment where the retraining was delivered. These site visits will involve a review of data requested in an introductory letter and separate interviews with the chief executive officer of the business establishment (e.g., plant manager), the human resource and training managers, the project director or coordinator, production supervisors from the units where retrained workers are employed, and training providers and retrained workers themselves. The proposed data requests and interview topics for businesses are outlined below under each interview session.

Business Data Requests

At least two weeks before the scheduled site visit, businesses will be mailed an interview packet that will contain: (1) requests for background data on the company and (2) the interview questions for each interview session.

The background data request will include:

- Written materials on company structure and product lines.
- Written materials on retraining plans, instructional and testing materials, and evaluations.
- Information on company retraining expenditures for job retraining

Topics for Interview Sessions

Session 1: Project Director/Coordinator. The first interview session will be held with the project director and/or the person responsible for the proposal that was developed for the state agency. This session will focus on how the project was designed and implemented within the company. This session will also be used to get an initial introduction to the structure and operations of the company site. The questions in this session will include:

(1) What was the major reason that the company decided to restructure its process technology or work organization and why was it necessary to retrain employees?

What was the major objective in undertaking these changes?

How specific were the performance goals that the company set?

(2) What alternatives were considered when the decision was made to retrain current employees or hire new employees?

(3) Why did the company seek government assistance in worker retraining?

(4) What was the role of state retraining funds in your decision to go ahead with the changes, including the retraining of workers?

Did it have any affect on the decision including the time frame in which the project was carried out?

(5) What previous involvement has the company had with other government programs (e.g., JTPA, TJTC, economic development programs)?

How did this involvement affect the decision to participate in the state retraining program?

(6) What was the original timeframe for the retraining project starting from original conceptualization, planning and implementation to post-project assessment?

How did involvement with the state retraining program affect the timeframe of the project?

(7) What were the major issues that were considered in the company decision to "make or buy" retraining for employees?

What criteria were used to choose the most appropriate provider including public and private outside vendors?

What information was used to make the final decision?

(8) Who actually designed the retraining program and with what types of input from management, unions, area educational institutions and workers?

What was the specific skill retraining provided during the project?

How were the specific skill competencies defined and how were they related to job performance issues?

(9) How were workers actually selected for retraining?

What factors were considered as to how retrained workers would be compensated for their new skills?

(10) What were the actually costs of the retraining to the company (e.g., direct and indirect retraining costs, loss of production/services) and how were they different than originally planned?

(11) How did the company assess the success of the worker retraining project?

What type of evaluation was undertaken by the company?

What types of evaluation did the company believe should have undertaken given the time and resources?

(12) What were the results of the larger restructuring of which the worker retraining was one part?

What role did retraining play in achieving these results?

What were some unintended benefits from the retraining?

(13) How has this retraining project affected company perspectives on worker retraining?

Has there been any change in resource commitment to retraining?

What lessons did the company learn in doing this type of worker retraining?

(14) What problems would the company foresee in state retraining programs requiring businesses to undertake post-training skill testing and to report changes in work unit and company performance after retraining?

If this was required, how would this have affected the decision to seek retraining funds from the state program?

Session 2: Upper Management. The upper management interviews will focus on why the company decided to invest money in retraining workers and what role

the state retraining funds played in making their final decision to proceed with the project. This interview session will also be used to get a different perspective or emphasis on:

(1) What was the major reason that the company decided to restructure its process technology or work organization and why was it necessary to retrain employees?

What was the major objective in undertaking these changes?

How specific were the performance goals that the company set?

(2) What alternatives were considered when the decision was made to retrain current employees?

(3) Why did the company seek government assistance in worker retraining?

(4) What was the role of state retraining funds in your decision to go ahead with the changes, including the retraining of workers?

Did it have any affect on the decision including the timeframe in which the project was carried out?

(5) What were the results of the larger restructuring of which the worker retraining was one part?

What role did retraining play in achieving these results?

What were some unintended benefits from the retraining?

(6) How has this retraining project affected company perspectives on worker retraining?

Has there been any change in resource commitment to retraining?

What lessons did the company learn in doing this type of worker retraining?

Session 3: Training Provider Interviews. The training provider interviews will be directed at how the purpose of the retraining was perceived by the provider and what role the provider played in determining the skill competencies for retraining and the resources and retraining time needed for the project.

(1) What was the purpose of the retraining project and what particular results did the company expect from the worker retraining?

(2) Who actually designed the retraining program and with what types of input from management, unions, area educational institutions and workers?

What was the specific skill retraining provided during the project?

How were the specific skill competencies defined and how were they related to job performance issues?

(3) How were workers actually selected for retraining?

What factors were considered as to how retrained workers would be compensated for their upgraded skills?

(4) What were the actually costs of the retraining to the company (e.g., direct and indirect retraining costs, loss of production/services) and how were they different than originally planned?

(5) How did the provider assess the success of the worker retraining project?

What type of evaluation was required by the company?

What types of evaluation do you think your company should have requested and received given the time and resources?

Session 4: Supervisor Interviews. The supervisor interviews will concentrate on perceived effects of the retraining on productivity improvements in the company and how supervisors would evaluate improvements in work unit performance. These interviews will also address what types of input supervisors had in the design and implementation of retraining.

(1) What involvement if any did the supervisors have in the company decision to make changes in technology or work organization?

What involvement did they have in the design of the retraining and the selection of the training provider?

(2) How were workers selected for the retraining and what factors determined who actually completed the retraining program?

(3) What were the major problems and concerns that workers had in going through the retraining program?

(4) How did retraining improve the ability of workers to perform their jobs?

What clear performance improvements were evident after retraining?

How long did it take for these improvements to be realized?

(5) How has this retraining affected the job satisfaction of retrained workers?

What other type of benefits were realized through the retraining?

Session 5: Worker and Union Interviews. The final interview session will be held with a representative sample of retrained workers and their union representatives (where applicable). These sessions will parallel the supervisor interviews and will focus on perceived benefits from retraining and the involvement of workers in the planning and delivery of retraining.

(1) What involvement if any did workers (and union representatives) have in the company decision to make changes in technology or work organization?

What involvement did workers (and union representatives) have in the design of the training and the selection of the training provider?

(2) How were workers selected for retraining and what factors determined who actually completed the retraining program?

(3) What were the major problems and concerns that workers had in going through the retraining program?

(4) How did retraining improve the ability of workers to perform their jobs?

What clear performance improvements were evident after retraining?

How long did it take for these improvements to be realized?

(5) How has this retraining affected job satisfaction of retrained workers?

What other type of benefits were realized through the retraining?

(6) Do retrained workers now have more job security in the company or have marketable skills that could provide opportunities for alternative employment with a different employer?

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